Missouri State University CURRICULAR PROPOSAL

NEW COURSE (or new REGULAR SECTION of an existing variable content course)

DepartmentBiology	DateOctober 25, 2011
	New REGULAR (i.e. permanent) SECTION of an existing variable content course. If a new regular purse, to what existing course is it to be attached?
PROPOSED CATALOG DESCRIPTION	
BIO 505 Human Nature	
cognitive dimensions of human biology also addresses the genetics of human p	MS 231; and PSY 121. A survey of current biological research on the behavioral, psychological, and . This course emphasizes the evolution and function of human social behaviors and value systems, but sychological diversity, the genetics of human-ape divergence, and the neurobiology of human with BIO 605. Cannot receive credit for both BIO 505 and BIO 605. 3(3-0) F.
PURPOSE OF COURSE	
and constrains human values, human pinterest in human biology, such as pre-	spective on what it means to be human. Students will reflect on how our biological heritage guides erceptions, and the conduct of human affairs. The course will target biology students with a particula health students, as well as students interested in evolutionary biology. It is hoped that this course wil ies (especially anthropology, sociology, psychology, and philosophy) and encourage them to explore tions upon which their disciplines rest.
RELATIONSHIP TO OTHER DEPARTMEN	its .
(human variation), PSY 336 (ethology), taught at a level that requires little or r	s course are introduced briefly as minor components of existing MSU courses, including ANT 365 PSY 521 (physiological psychology), and PSY 525 (motivation and emotion). These existing courses are to background in biology, and none of these courses has as its central focus any of the major topics to e. Because of the cross-discipline interest in human nature, the existence of this course may nities to minor in Biology.
300a/05) and forward three typed, or	T VI, SEC 3B(1-4) of Bylaws of the Faculty. Attach New Course Resource Information form (FS ginally signed forms to one of the following (please check all that apply and send to first urse needs to go through more than one council/committee forward one additional form for each.
X College Council	(All new course proposals numbered 100-599 must go through College Council first. After approval, College Council w forward appropriate number of copies to the next committee/ council or directly to the Faculty Senate if no further committee approval is needed.)
Professional Education Committee	(Considers all new courses affecting BS and MS in Education and Educational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all general education and multi-college new course proposals)
Graduate Council	(Considers all 600-, 700-, and 800-level new courses)
*If the course needs to go through more than	one council/committee, forward one additional form for each additional council/committee marked.
Signature Department Head	<u>Date 10-25-11</u>

(Routing on Reverse Side)

FS New Course - 9/10/2010

NEW COURSE RESOURCE INFORMATION

Department Biology	у		Date	October 25, 2011	
Course Number and Title	BIO 505 Human Nature				
Anticipated Average Enrolls	ment <u>15</u>	Maximum Enrollment Limit_	45 (combi	ned with BIO 605)	
Faculty Load Assignment	33	_ Equated Hours			
1 Is another course being d	leleted? If so, give course numb	per and title.			
No No					
2 What will this course req	quire in the way of:				
Additional library h	oldings? None				
Additional computer	r resources? None				
Additional or remod	deled facilities? None				
Additional equipme	ent or supplies? None				
Additional travel fu	nds? None				
Additional faculty	general vs specialized? None				
Other additional exp	penses? None				
3 If additional faculty are a	not required, how will faculty be	e made available to teach this cour	se?		
Two existing course	es with relatively low enrollment	t (BIO 540/650 and BIO 560/659)	will be tau	ight less frequently.	
List names of current fac	culty qualified to teach this cours	se:			
John Heywood					
4 What is the anticipated s to or in place of other co	ource of students for this course ourses? If from outside the depa	? (If from within the department, urtment, which courses in other department)?	will stude	nts be taking this course in additio would most likely be affected?)	n
taken to satisfy the many BIO courses	elective requirements in BIO. I that are commonly taken to satis e. This course should attract mo	t is anticipated that the enrollment of BIO elective requirements, and partly pre-health students with interest	impact of that the in	this course will be spread across appact will therefore not be high for	r

5 Other comments:

Missouri State University CURRICULAR PROPOSAL

NEW COURSE (or new REGULAR SECTION of an existing variable content course)

Department Biology	Date October 25, 2011
Check one: _XNew COURSE section of an existing variable topic	New REGULAR (i.e. permanent) SECTION of an existing variable content course. If a new regular scourse, to what existing course is it to be attached?
PROPOSED CATALOG DESCRIPTION	
BIO 605 Human Nature	
biological research on the behaviora function of human social behavior ar	al biology with evolution; genetics; college algebra; introductory psychology. A survey of current I, psychological, and cognitive dimensions of human biology. This course emphasizes the evolution and and value systems, but also addresses the genetics of human psychological diversity, the genetics of robiology of human cognition. May be taught concurrently with BIO 505. Cannot receive credit for both
PURPOSE OF COURSE	
and constrains human values, humar	perspective on what it means to be human. Students will reflect on how our biological heritage guides in perceptions, and the conduct of human affairs. The course will target biology graduate students with a such as those preparing for professional health schools, as well as those interested in evolutionary
RELATIONSHIP TO OTHER DEPARTM	ENTS
There are no existing MSU graduate or provides a general introduction to hu	courses that address the evolution and genetics of human behavior. PSY 622 (physiological psychology) are unan neurological architecture and function that assumes no background in biology.
300a/05) and forward three typed, o	ART VI, SEC 3B(1-4) of Bylaws of the Faculty. Attach New Course Resource Information form (FS originally signed forms to one of the following (please check all that apply and send to first course needs to go through more than one council/committee forward one additional form for each
College Council	(All new course proposals numbered 100-599 must go through College Council first. After approval, College Council will forward appropriate number of copies to the next committee/ council or directly to the Faculty Senate if no further committee approval is needed.)
Professional Education Committee	(Considers all new courses affecting BS and MS in Education and Educational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all general education and multi-college new course proposals)
X_Graduate Council	(Considers all 600-, 700-, and 800-level new courses)
Signature Department Head	on one council/committee, forward one additional form for each additional council/committee marked. Date $10-25-11$
	(Routing on Reverse Side) FS New Course - 9/10/2010

NEW COURSE RESOURCE INFORMATION

Department Biology

D	epartment Biology	Date October 25, 2011
C	ourse Number and Title <u>BIO 605 Human Nature</u>	
A	nticipated Average Enrollment 3	Maximum Enrollment Limit 45 (combined with BIO 505)
Fa	aculty Load Assignment3	Equated Hours
1	Is another course being deleted? If so, give course number	r and title.
	No	
2	What will this course require in the way of:	
	Additional library holdings? None	
	Additional computer resources? None	
	Additional or remodeled facilities? None	
	Additional equipment or supplies? None	
	Additional travel funds? None	
	Additional facultygeneral vs specialized? None	
T.Sec.	Other additional expenses? None	
3	If additional faculty are not required, how will faculty be m	nade available to teach this course?
	Two existing courses with relatively low enrollment (E	BIO 540/650 and BIO 560/659) will be taught less frequently.
	List names of current faculty qualified to teach this course:	
	John Heywood	
4	What is the anticipated source of students for this course? (to or in place of other courses? If from outside the department	(If from within the department, will students be taking this course in addition nent, which courses in other departments would most likely be affected?)
	professional health school, are conducting biomedical	will be MS students in the Biology department who are preparing for research, or are working in the area of evolutionary biology. It is expected nts (who will enroll in BIO 505). The small enrollment impact of the graduate r existing graduate course.
5	Other comments:	

PROPOSAL FOR NEW GRADUATE COURSE

all allie	10-25-11
Department Head	Date
College Dean	Date
Associate Provost and Dean	Date

I Course number and title:

BIO 605 Human Nature

II Proposed catalog description:

Recommended prerequisites: general biology with evolution; genetics; college algebra; introductory psychology. A survey of current biological research on the behavioral, psychological, and cognitive dimensions of human biology. This course emphasizes the evolution and function of human social behaviors and value systems, but also addresses the genetics of human psychological diversity, the genetics of human-ape divergence, and the neurobiology of human cognition. May be taught concurrently with BIO 505. Cannot receive credit for both BIO 505 and BIO 605. 3(3-0) F.

III How does this course strengthen or contribute to the overall graduate curriculum or to a particular graduate program?

Many graduate students in the biological sciences are interested in research with biomedical applications, and thus have a particular interest in human biology. Notably absent from our curriculum is a course that addresses the cognitive and behavioral aspects of human biology at a level that is appropriate for biology students. Furthermore, it is not possible to understand human cognition and behavior without putting it into an evolutionary context, so this course will require students with interests in human health to think deeply about our evolutionary heritage and its consequences for health care and health management. For graduate students interested in evolutionary biology, this course will provide an opportunity to delve deeply into selected topics such as evolutionary game theory and the interaction between biological and cultural evolution. Students will read and write about both primary and secondary literature, and approximately one-third of class meetings will be devoted to seminar-style open discussion. Thus, students will gain important experience in critical reading, writing, and discussion.

IV Objectives of the course:

- Review the literature on the heritability of human psychological and cognitive traits.
- Review the literature comparing the human and chimpanzee genomes.
- Understand basic brain architecture and functional mapping.
- Understand the nature of neural networks and how their operation differs from that of a digital computer.
- Review recent research on the role of emotions in rational thought.
- Understand the mechanisms by which cooperative and altruistic behavior can evolve.
- Introduce evolutionary game theory as a tool for predicting when short-term cooperative vs. selfish behaviors are expected to be expressed.
- Review the literature that documents the role of reciprocity in the evolution of human cooperative behavior.
- Discuss the interaction of biological evolution and cultural evolution in shaping modern social norms.
- Understand the mechanisms by which mating systems evolve.
- Read and discuss primary and secondary literature in which various predictions of evolutionary psychology are tested
 using data from human subjects.

V Special projects if any:

Students will be required to write synopses of selected readings and participate in classroom discussions of readings.

VI Evaluative techniques:

- Frequent short guizzes over lecture material
- Grades assigned to written synopses of selected assigned readings
- Qualitative assessment of participation during class discussions.

VII What other departments and/or agencies were consulted in the process of creating the course?

- Psychology
- Anthropology
- Philosophy

VIII Course outline (course content should support specific objectives of course):

Topic	Number of class meetings
Overview	1
Heritability of psychological and cognitive traits	2
Human-Chimpanzee genome comparisons	1
Demonstrations of subjectivity in visual perception	2
Basic neurophysiology	4
Brain architecture (anatomy and neural networks)	2
Confidence and induction	1
Open discussion of readings on the role of emotions in rationality	3
Consciousness	2
Introduction to human sociobiology aka evolutionary psychology	1
Evolution by natural selection	4
Evolutionary game theory	4
Sexual selection and mating system evolution	2
Human reproductive behavior	2
Open discussion of readings on the role of reciprocity in human cooperation	3
Open discussion of experimental studies in evolutionary psychology	9

IX Basic bibliography:

Abrahams, B.S., and D.H. Geschwind. 2008. Advances in autism genetics: On the threshold of a new neurobiology. *Nature Reviews Genetics* 9:341-355.

Akey, J.M. 2009. Constructing genomic maps of positive selection in humans: Where do we go from here? *Genome Research* 19:711-722.

Barash, D.P. 2003. The Survival Game: How Game Theory Explains the Biology of Cooperation and Competition.

Boomsma, D., A. Busjahn, and L. Peltonen. 2002. Classical twin studies and beyond. Nature Reviews: Genetics 3: 872-882.

Bouchard, Thomas J., Jr., and Matt McGue. 2003. Genetic and Environmental Influences on Human Psychological Differences. Journal of Neurobiology 54: 4-45.

Bouchard, Thomas J., Jr. 2004. Genetic influence on human psychological traits. Current Directions in Psychological Science 13(4): 148-151.

Blackmore, S.J. 2003. Consciousness: An Introduction. Oxford University Press.

Burt, A., and R. Trivers. 2008. Genes in Conflict: The Biology of Selfish Genetic Elements. Harvard University Press.

Buss, D.M. (ed.). 2005. The Handbook of Evolutionary Psychology. John Wiley and sons.

Buss, D.M. 2011. Evolutionary psychology: The new science of the mind (4th ed.). Prentice-Hall.

Carroll, S.B. 2003. Genetics and the making of Homo sapiens. Nature 422:849-857.

Carter, R. 2010. Mapping the Mind. University of California Press.

Churchland, P.M. The Engine of Reason, the Seat of the Soul: A Philosophical Journey into the Brain. MIT Press, Cambridge.

Damasio, A.R. 1994. Descartes' Error: Emotion, Reason, and the Human Brain.

Dixson, A., and M. Anderson. 2001. Sexual selection and the comparative anatomy of reproduction in monkeys, apes, and human beings. *Annual Review of Sex Research* 12:121-144.

Frank, S. A. 1998. Foundations of Social Evolution. Princeton University Press.

Gilbert, S.L., W.B. Dobyns, and B.T. Lahn. 2005. Genetic links between brain development and brain evolution. Nature Rev. Genet. 6:581-590.

Haig, D. 2000. The kinship theory of genomic imprinting. Annual Review of Ecology and Systematics 31:9-32.

Hauser, M.D. 2005. Our chimpanzee mind. Nature 437:60-63.

Hauser, M.D. 2006. Moral Minds: How Nature Designed our Universal Sense of Right and Wrong. Harper Collins.

Hill, S.R, and Walsh, C.A. 2005. Molecular insights into human brain evolution. Nature 437:64-67.

Kenrick, D.T. 2011. Sex, Murder and the Meaning of Life: A Psychologist Investigates How Evolution, Cognition, and Complexity are Revolutionizing Our View of Human Nature.

Lehrer, J. 2009. How We Decide. Mariner Books - Houghton Mifflin Harcourt.

O'Donovan, M.C., N.J. Craddock, and M.J. Owen. 2009. Genetics of psychosis; insights from views across the genome. Human Genetics 126:3-12.

Pinker, S. 1997. How the Mind Works. W.W. Norton.

Pinker, S. 2002. The Blank Slate: The Modern Denial of Human Nature. Penguin Group.

Ridley, M. 1997. The Origins of Virtue: Human Instincts and the Evolution of Cooperation.

Ruse, M. (ed.). 2009. Philosophy after Darwin. Princeton University Press.

Sabeti, P.C., et al. 2006. Positive natural selection in the human lineage. Science 312:1614-1620.

Searle, J.R. 2001. Free will as a problem of neurobiology. Philosophy 76:491-514.

Sigmund, K. 1993. Games of life: Explorations in ecology, evolution, and behavior. Oxford University Press.

The Chimpanzee Sequencing and Analysis Consortium. 2005. Initial sequence of the chimpanzee genome and comparison with the human genome. Nature 437:69-87.

Wilson, E.O. 1975. Sociobiology: The New Synthesis. Harvard University Press.

Professional Journals:

200 × 200 × 200 × 1

Behavioral and Brain Sciences Brain, Behavior and Evolution Cognitive Science Evolution and Human Behavior Evolutionary Anthropology Evolutionary Psychology Frontiers in Evolutionary Neuroscience Genes, Brain and Behavior Journal of Social, Evolutionary, and Cultural Psychology

Missouri State University CURRICULAR PROPOSAL NEW COURSE (or new REGULAR SECTION of an existing variable content course)

DepartmentChemistry	10/31/2011
	_New REGULAR (i.e. permanent) SECTION of an existing variable content course. If a new regular ourse, to what existing course is it to be attached?
PROPOSED CATALOG DESCRIPTION	
	and permission of department head. Required assessment of undergraduate Comprehensive and Non-comprehensive in this course during their final semester and complete a comprehensive assessment exam, as administered by the F,S
PURPOSE OF COURSE	
typically the chemistry Major Field Act CHM498 Chemistry Careers. Students prepare them for the job application pro	ntinue assessing our graduating majors via administration of a comprehensive assessment examination, hievement Test (MFAT). However, administration of the MFAT is currently strictly coupled to taking have expressed a strong desire to be able to take CHM498 earlier than their graduating semester to occss. Therefore the department wishes to decouple this course from completing the MFAT. We are oblitical Science department which has a zero credit course explicitly for administration of a as the MFAT.
RELATIONSHIP TO OTHER DEPARTMENT	NTS
This new course will only affect chemi-	stry majors.
300a/05) and forward three typed, or	RT VI, SEC 3B(1-4) of Bylaws of the Faculty. Attach New Course Resource Information form (FS iginally signed forms to one of the following (please check all that apply and send to first burse needs to go through more than one council/committee forward one additional form for each l.
X College Council	(All new course proposals numbered 100-599 must go through College Council first. After approval, College Council wis forward appropriate number of copies to the next committee/ council or directly to the Faculty Senate if no further committee approval is needed.)
Professional Education Committee	(Considers all new courses affecting BS and MS in Education and Educational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all general education and multi-college new course proposals)
Graduate Council	(Considers all 600-, 700-, and 800-level new courses)
*If the course needs to go through more than Signature Department Head	Date Date

(Routing on Reverse Side)

FS New Course - 9/10/2010

NEW COURSE RESOURCE INFORMATION

De	partment Chemist	try		Date	10/31/2011	
Co	urse Number and Tit	tleC	HM 492, Program Assessment			
An	ticipated Average En	nrollment	10-15/semester	Maximum Enroll	ment Limit	32
Fa	culty Load Assignme	ent	_portion of _one (1)	Equated Hours		
,	1 Is another course b	eing deleted?	No			
	2 What will this cour	rse require in	the way of:			
	Additional libra	ary holdings?	No			
	Additional com	puter resource	es? No			
	Additional or re	emodeled faci	lities? No			
	Additional equi	ipment or supp	plies? No			
	Additional trave	el funds? No				
	Additional facu	ıltygeneral v	s specialized? No			
	Other additiona	ll expenses? N	lo			
		-	ed, how will faculty be made availa arrange the acquisition of the exan			•
	List names of current teach this course.	t faculty qual	ified to teach this course: All facult	y (instructors, Assistant, Associ	iate and Full Profe	essors) are qualified to
			students for this course? (If from worm outside the department, which co			
	This course will be r	equired of all	chemistry majors (comprehensive	and non-comprehensive)		
5	Other comments:					

Department <u>CHM</u>	andi Troposar co		_ Date_	10/31/2011	
Check one: This is a change to	an existing COURSE an existing REGULAR (i.e. permar	nent) SECTION	l of a variable conter	nt course
Present Catalog Description		Revised C	atalog Descri	ption	
(Cut and paste from web catalog or use most	recent description.)	(Cut and past boid new info	e description again rmation.)	, strikethrough all deletions,	and insert and
CHM 160 General Chemistry I		CHM 160 (General Chemis	try I	
Prerequisite: eligibility for MTH 135 or higher Course (Natural World). Emphasis on fundant concepts of chemistry. Recommended for all majors and minors, and most preprofessional enrollment in CHM 161 is highly recommend better is required in this course in order to take or CHM 200. May not be taken Pass/Not Pass	nental and theoretical science majors, chemistry students. Concurrent ded. A grade of "C-" or to CHM 170, CHM 171,	Course (Nat concepts of majors and enrollment recommend order to take	nural World). Em chemistry. Recominors, and most in CHM 161 (Ge ed. A grade of "O	TTH 135 138 or higher. Gophasis on fundamental and mmended for all science not preprofessional students. neral Chemistry I Labor C-1 or better is required in M 171, or CHM 200. May	I theoretical najors, chemistry Concurrent ratory) is highly this course in
What is changing? Check all boxes that a					
©Course Deletion ©Course Code			Title	X Prerequisite	
Credit Hours/Contact Hours	Periodicity	1	X Description	on	
Reason for Proposed Change or Deletion Some students registering for CHM160 di	d not understand that 161	was the lah	course that the	v should be taking	
to be included in the course description as How Did You Determine the Need For Th This change will clarify information for be COMPLETE NEW CATALOG INFORMATIO	nis Change or Deletion? oth advisors and students		take CHM160).	
CHM 160 General Chemistry I					•
Prerequisite: eligibility for MTH 138 or higher. chemistry. Recommended for all science major 161 (General Chemistry I Laboratory) is highly 171, or CHM 200. May not be taken Pass/Not	ors, chemistry majors and m recommended. A grade of	inors, and mo	st preprofession	al students. Concurrent e	nrollment in CHM
Check if this is a non-substantive change Faculty Senate; 600- through 900-level courses: through proval.	e. Distribution for non-substan ee originally-signed copies to G	tive changes of iraduate Counc	100- through 500- il. Graduate Counc	level courses: two originally- il will give two copies to Facu	signed copies to Ity Senate after
Substantive Change: Department routes according (please check all that apply and send to first counci form for each additional council/committee market	/committee marked). If propo	sal needs to go	through more than	n one council/committee, for	of the following ward one additional
X College Council	approval, College Council or d	cil will forward lirectly to the	d appropriate nu Faculty Senate if	nust go through College Co imber of copies to the nex ino further committee ap originally signed copies to	t proval is needed.
Professional Education Committee	(Considers all substanti Methods courses.)			ional Education courses a	
Committee on General Education		ve course cha	nges for Genera	Education and Intercolle	giate Program
and Intercollegiate Programs	proposals.)				
Graduate Council	(considers all 600-900	level course c	hanges.) Date	10/31/201	
De artment War				, ,	

(Routing on Reverse Side)

Check one: This is a change to	Department <u>CHM</u>		Date	10/31/2011
(Cut and paste from web catalog or use most recent description.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new information.) (Cit and paste description again, strikethrough all deletions, and insert and bold new insert and security seasons from the senior year. (Cit and paste description again, strike through insert and bold new insert and security against the service against and the security against pasters.) (Cit and paster description against pasters			i.e. permanent) SECTION of	a variable content course
Prerequisite: senior status chemistry major and permission of department head. Taken during second semester senior year. Successful completion of the chemistry assessment test will be required. CHM separtment head. Taken during second semester senior year. Successful completion of the chemistry assessment test will be required. CHM separtment head. Taken during second-semester senior year. Successful completion of the chemistry casessment test will be required. CHM separtment head. Taken during second-semester senior year. Successful completion of the chemistry casessment test will be required. CHM separtment for the chemistry related employers will be invited. Interaction with the Career Center will be required. 1(1-0) F, S What is changing? Check all boxes that apply. ®Course Deletion		ecent description.)	(Cut and paste description again, str	
department head. Taken during second semester senior year. Successful completion of the chemistry assessment test will be required. Writing scientific resumes and cover letters, discussion of chemistry careers, graduate school, job-hunting resources and professional ethics. Outside speakers from chemistry-related employers will be invited. Interaction with the Career Center will be required. 1(1-0) F,S What is changing? Check all boxes that apply. @Course Code @Course Number @Course Code @Course Number @Title X Prerequisite @Coredit Hours/Contact Hours @Periodicity X Description Reason for Proposed Change or Deletion The department is de-coupling his course from completion of the chemistry assessment test (MFAT), and allowing students to take this course earlier than second semester of their senior year. How Did You Determine the Need For This Change or Deletion? Recent graduating students have expressed a strong desire to have this course available earlier. But the department still wishes to administer the MFAT. We are therefore removing its requirement from CHM498 and developing a new, zero-credit course (CHM492) which will now administer the MFAT. We are therefore removing its requirement from CHM498 and developing a new, zero-credit course (CHM492) which will now administer the MFAT (see related documentation). COMPLETE NEW CATALOG INFORMATION (typed) CHM 498 Chemistry Careers Check if this is a non-substantive change. Distribution for non-substantive changes of 100-through 500-level courses: two originally-signed copies to Faculty Senate; 600-through 900-level courses: three originally-signed copies to Graduate Council will give two copies to Faculty Senate; 600-through 900-level courses: three originally-signed copies to Graduate Council will give two copies to the next committee programs A	CHM 498 Chemistry Careers		CHM 498 Chemistry Careers	
### Course Deletion ### Course Code ### Course Number ### Title	department head. Taken during second semester completion of the chemistry assessment test with scientific resumes and cover letters, discussion graduate school, job-hunting resources and pro- speakers from chemistry-related employers will	er senior year. Successful ill be required. Writing of chemistry careers, fessional ethics. Outside Il be invited. Interaction	department head. Taken during a completion of the chemistry asses 398 and 60 total hours complet cover letters, discussion of chem hunting resources and profession chemistry-related employers will	second semester senior year. Successful sement test will be required. CHM ted. Writing scientific resumes and istry careers, graduate school, jobal ethics. Outside speakers from I be invited. Interaction with the Career
### Course Deletion ### Course Code ### Course Number ### Title	What is changing? Check all boxes that ap	ply.		
Reason for Proposed Change or Deletion The department is de-coupling this course from completion of the chemistry assessment test (MFAT), and allowing students to take this course earlier than second semester of their senior year. How Did You Determine the Need For This Change or Deletion? Recent graduating students have expressed a strong desire to have this course available earlier. But the department still wishes to administer the MFAT. We are therefore removing its requirement from CHM498 and developing a new, zero-credit course (CHM492) which will now administer the MFAT. We are therefore removing its requirement from CHM498 and developing a new, zero-credit course (CHM492) which will now administer the MFAT (see related documentation). COMPLETE NEW CATALOG INFORMATION (typed) CHM 498 Chemistry Careers Prerequisite: CHM 398 and 60 total hours completed. Writing scientific resumes and cover letters, discussion of chemistry careers, graduate school, job-hunting resources and professional ethics. Outside speakers from chemistry-related employers will be invited. Interaction with the Career Center will be required. (1(-10) F.5.	® Course Deletion ® Course Code	2 Course Nu		X Prerequisite
Recent graduating students have expressed a strong desire to have this course available earlier. But the department still wishes to administer the MFAT. We are therefore removing its requirement from CHM498 and developing a new, zero-credit course (CHM492) which will now administer the MFAT (see related documentation). COMPLETE NEW CATALOG INFORMATION (typed) CHM 498 Chemistry Careers Prerequisite: CHM 398 and 60 total hours completed. Writing scientific resumes and cover letters, discussion of chemistry careers, graduate school, job-hunting resources and professional ethics. Outside speakers from chemistry-related employers will be invited. Interaction with the Career Center will be required. 1(1-0) F,S Chreck if this is a non-substantive change. Distribution for non-substantive changes of 100- through 500-level courses: two originally-signed copies to Faculty Senate; 600- through 900-level courses: three originally-signed copies to Graduate Council. Graduate Council will give two copies to Faculty Senate after approval. Substantive Change: Department routes according to ART VI, SEC 38(1-4) of Bylaws of the Faculty. Forward three originally signed forms to one of the following (please check all that apply and send to first council/committee marked.) If proposal needs to go through more than one council/committee, forward one additional form for each additional council/committee marked. See Senate Action 11-93/94 for definitions of substantive/non-substanti	Reason for Proposed Change or Deletion The department is de-coupling this course from	completion of the chemistr		owing students to take this course
Prerequisite: CHM 398 and 60 total hours completed. Writing scientific resumes and cover letters, discussion of chemistry careers, graduate school, job-hunting resources and professional ethics. Outside speakers from chemistry-related employers will be invited. Interaction with the Career Center will be required. 1(1-0) F,S Check if this is a non-substantive change. Distribution for non-substantive changes of 100- through 500-level courses: two originally-signed copies to Faculty Senate; 600- through 900-level courses: three originally-signed copies to Graduate Council. Graduate Council will give two copies to Faculty Senate after approval. Substantive Change: Department routes according to ART VI, SEC 38(1-4) of Bylaws of the Faculty. Forward three originally signed forms to one of the following (please check all that apply and send to first council/committee marked). If proposal needs to go through more than one council/committee, forward one additional form for each additional council/committee marked. See Senate Action 11-93/94 for definitions of substantive/non-substantive changes.	Recent graduating students have expressed a stro MFAT. We are therefore removing its requirem	ong desire to have this cour		
Prerequisite: CHM 398 and 60 total hours completed. Writing scientific resumes and cover letters, discussion of chemistry careers, graduate school, job-hunting resources and professional ethics. Outside speakers from chemistry-related employers will be invited. Interaction with the Career Center will be required. 1(1-0) F,S Check if this is a non-substantive change. Distribution for non-substantive changes of 100- through 500-level courses: two originally-signed copies to Faculty Senate; 600- through 900-level courses: three originally-signed copies to Graduate Council. Graduate Council will give two copies to Faculty Senate after approval. Substantive Change: Department routes according to ART VI, SEC 38(1-4) of Bylaws of the Faculty. Forward three originally signed forms to one of the following (please check all that apply and send to first council/committee marked). If proposal needs to go through more than one council/committee, forward one additional form for each additional council/committee marked. See Senate Action 11-93/94 for definitions of substantive/non-substantive changes. College Council	COMPLETE NEW CATALOG INFORMATION	(typed)		
job-hunting resources and professional ethics. Outside speakers from chemistry-related employers will be invited. Interaction with the Career Center will be required. 1(1-0) F,S Check if this is a non-substantive change. Distribution for non-substantive changes of 100- through 500-level courses: two originally-signed copies to Faculty Senate; 600- through 900-level courses: three originally-signed copies to Graduate Council. Graduate Council will give two copies to Faculty Senate after approval. Substantive Change: Department routes according to ART VI, SEC 38(1-4) of Bylaws of the Faculty. Forward three originally signed forms to one of the following (please check all that apply and send to first council/committee marked). If proposal needs to go through more than one council/committee, forward one additional form for each additional council/committee marked. See Senate Action 11-93/94 for definitions of substantive/non-substantive changes.	CHM 498 Chemistry Careers			
(please check all that apply and send to first council/committee marked). If proposal needs to go through more than one council/committee, forward one additional form for each additional council/committee marked. See Senate Action 11-93/94 for definitions of substantive/non-substantive changes. X College Council (All substantive course changes numbered 100-599 must go through College Council first. After approval, College Council will forward appropriate number of copies to the next committee/council or directly to the Faculty Senate if no further committee approval is needed. The last level of committee/council will forward two originally signed copies to the Faculty Senate.) (Considers all substantive course changes for Professional Education courses and Teaching Methods courses.) (Considers all substantive course changes for General Education and Intercollegiate Program proposals.) Graduate Council Considers all 600-900 level course changes.) Date	job-hunting resources and professional ethics. O will be required. 1(1-0) F,S Check if this is a non-substantive change. Faculty Senate; 600- through 900-level courses: three	utside speakers from chem Distribution for non-substanti	istry-related employers will be inv we changes of 100- through 500-level	vited. Interaction with the Career Center courses: two originally-signed copies to
approval, College Council will forward appropriate number of copies to the next committee/council or directly to the Faculty Senate if no further committee approval is needed. The last level of committee/council will forward two originally signed copies to the Faculty Senate.) [Considers all substantive course changes for Professional Education courses and Teaching Methods courses.) [Considers all substantive course changes for General Education and Intercollegiate Program proposals.) [Considers all 600 000 level course changes.] [Considers all 600 000 level course changes.] [Considers all 600 000 level course changes.]	(please check all that apply and send to first council/o	ommittee marked). If proposi	al needs to go through more than one	council/committee, forward one additional
Professional Education Committee Committee on General Education and Intercollegiate Programs Graduate Council SignatureDate (Considers all substantive course changes for Professional Education courses and Teaching Methods courses.) (Considers all substantive course changes for General Education and Intercollegiate Program proposals.)	XCollege Council	approval, College Counci committee/council or di The last level of commit	I will forward appropriate numbe rectly to the Faculty Senate if no f	r of copies to the next urther committee approval is needed.
Committee on General Education and Intercollegiate Programs	Professional Education Committee	(Considers all substantiv	e course changes for Professional	Education courses and Teaching
Signature Date U/01/01/		(Considers all substantiv	e course changes for General Edu	cation and Intercollegiate Program
	Signature	Considers all 600 000 le	11	131/2011

(Routing on Reverse Side)

FS Course Change - 9/10/2010

Department <u>CHM</u>	on existing COLIPSE	Date	10/31/2011
Check one: This is a change to X		i.e. permanent) SECTIO	ON of a variable content course
Present Catalog Description (Cut and paste from web catalog or use mos	t recent description.)	Revised Catalog Desc (Cut and paste description ag bold new information.)	cription ain, strikethrough all deletions, and insert and
CHM 533 Advanced Analytical Methods			
Prerequisite: "C" or better in CHM 302. Prin modern instrumental methods used in chemic on the fundamental physical and chemical th Topics covered include atomic and molecula electrochemistry, mass spectrometry, and sel concurrently with CHM 633. Cannot receive and CHM 633. 4(3-3), F	cal analysis, with emphasis eories and principles. or spectroscopy, parations. May be taught		
What is changing? Check all boxes that a	ipply.		3
X Course Deletion ©Course Code	e 🛮 🖾 Course Nu		Prerequisite
☑Credit Hours/Contact Hours	Periodicity	☑ Descripti	on
Reason for Proposed Change or Deletion	1 · · · · · · · · · · · · · · · · · · ·		
This course is no longer taught, and the mate been included as a courtesty. How Did You Determine the Need For Ti This course is no longer taught, and the mate	his Change or Deletion?		
Faculty Senate; 600- through 900-level courses: thr	e. Distribution for non-substant	tive changes of 100- through 50 raduate Council. Graduate Cou	O-level courses: two originally-signed copies to ncil will give two copies to Faculty Senate after
approval. Substantive Change: Department routes according (please check all that apply and send to first counciform for each additional council/committee market	il/committee marked). If propos	al needs to go through more th	nan one council/committee, forward one additional
X College Council	approval, College Counc committee/council or d	il will forward appropriate i irectly to the Faculty Senate	must go through College Council first. After number of copies to the next if no further committee approval is needed to originally signed copies to the Faculty
Professional Education Committee	(Considers all substantion Methods courses.)	ve course changes for Profe	ssional Education courses and Teaching
Committee on General Education and Intercollegiate Programs		ve course changes for Gene	ral Education and Intercollegiate Program
Graduate Council	(Considers all 600-900 l	evel course changes.)	10/01/0011
Signature /////		Date	1013117011
Department Head	(Routing on Re	verse Side)	FS Course Change - 9/10/2010

Department <u>CHM</u>		Date	10/31/2011	
Check one: This is a change toa		i.e. permanent) SECTIO	ON of a variable co	ntent course
Present Catalog Description (Cut and paste from web catalog or use most	recent description.)	Revised Catalog Desc (Cut and paste description ag bold new information.)	•	ions, and insert and
CHM 633 Advanced Analytical Method	ds	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Prerequisite: "C" or better in CHM 302. F techniques of modern instrumental metho analysis, with emphasis on the fundament chemical theories and principles. Topics of and molecular spectroscopy, electrochem spectrometry, and separations. May be take CHM 533. Cannot receive credit for both 633. 4(3-3), F	ds used in chemical tal physical and covered include atomic istry, mass ught concurrently with			
What is changing? Check all boxes that ap	pply.	**************************************		
X Course Deletion ©Course Code	Course Nu	mber Title	Prerequisite	:
	Periodicity	☑ Description	on -	
Reason for Proposed Change or Deletion				
This serves is no lower to unby and the material	-l b b !		cont	
This course is no longer taught, and the materia	al has been incorporated in	to other courses (CHM502/	502)	
How Did You Determine the Need For Thi				
This course is no longer taught, and the materia	al has been incorporated in	to other courses (CHM502/	602)	
COMPLETE NEW CATALOG INFORMATION	(typed)			
Check if this is a non-substantive change. Faculty Senate; 600- through 900-level courses: three approval.	Distribution for non-substanti e originally-signed copies to Gr	ive changes of 100- through 500 aduate Council. Graduate Coun)-level courses: two original cil will give two copies to f	ally-signed copies to Faculty Senate after
Substantive Change: Department routes according to (please check all that apply and send to first council/ form for each additional council/committee marked.	committee marked). If proposi	al needs to go through more tha	an one council/committee	one of the following forward one additional
XCollege Council	approval, College Counci committee/council or di	hanges numbered 100-599 r il will forward appropriate n rectly to the Faculty Senate tee/council will forward two	umber of copies to the if no further committee	next approval is needed.
Professional Education Committee		e course changes for Profess	sional Education course	s and Teaching
Committee on General Education and Intercollegiate Programs		e course changes for Genera	al Education and Interco	llegiate Program
_X_Graduate Council ////	Considers all 600-900 le	vel course changes.)	.01.01	
Signature / ()	\approx	Date	10/3/10	
Separtment Head			. , - 1/ -	

(Routing on Reverse Side)

FS Course Change - 9/10/2010

DepartmentChemistry		Date10/28/2011	
Check one: This is a change toanar	n existing COURSE an existing REGULAR	(i.e. permanent) SECTION of a variable content course	
Present Catalog Description (Cut and paste from web catalog or use most re	ecent description.)	Revised Catalog Description (Cut and paste description again, strikethrough all deletions, and insert and bold new information.)	
CHM 702 Advanced Techniques in Chemical Analysis Prerequisite: CHM 602 or CHM 633. Advanced topics in modern instrumental analysis, instrumentation, and methods, including data acquisition methods, data manipulation and analysis, and electronics. 3(3-0), SO		CHM 702 Advanced Techniques in Chemical Analysis Advanced Topics in Analytical Chemistry Prerequisite: CHM 602 or CHM 633. Advanced topics in modern	
©Course Deletion ©Course Code ©Credit Hours/Contact Hours Reason for Proposed Change or Deletion Content of course has changed due to new instr How Did You Determine the Need For This Internal discussions amongst faculty that teach COMPLETE NEW CATALOG INFORMATION CHM 702 Advanced Topics in Analytical Chemi lectures and student projects. Examples of p acquisition methods. Variable content course. №	s Change or Deletion? the course. I (typed) istry Prerequisite: CHM 6 proposed topics include: 0	An advanced topic in analytical chemistry will be addressed via facult electroanalytical methods, nanotechnology, forensic chemistry and dat	
Chack if this is a non-substantive change.	Distribution for non-substan	ntive changes of 100- through 500-level courses: two originally-signed copies to Graduate Council. Graduate Council will give two copies to Faculty Senate after	
(please check all that apply and send to first council/	committee marked). If propo	ws of the Faculty. Forward <u>three</u> originally signed forms to <u>one</u> of the following osal needs to go through more than one council/committee, forward one additional for definitions of substantive/non-substantive changes.	
College Council	approval, College Council or o	changes numbered 100-599 must go through College Council first. After nicil will forward appropriate number of copies to the next directly to the Faculty Senate if no further committee approval is needed. https://doi.org/10.1016/j.com/10.10	
Professional Education Committee	(Considers all substanti Methods courses.)	tive course changes for Professional Education courses and Teaching tive course changes for General Education and Intercollegiate Program	
Committee on General Education and Intercollegiate Programs	proposals.)		
_X_Graduate Council	Considers all 600-900	level course changes.)	
Signature Department Head		Date	

(Routing on Reverse Side)

FS Course Change - 9/10/2010

DepartmentChemistry		Dat	te10/28/2011	
Title of Program Affected Accelerated Master	s in Chemistry_		Market Market State Control of the C	
Major Comprehensive Major Option	X Minor	Certificate Certification	on Academic Rules	Other
Present Catalog Description (Cut and paste from web catalog or use most recent de	scription.)	Revised Catalog Descript (Cut and paste description a bold new information.)	ion gain, strikethrough all deletion	rs, and insert and
Eligible Missouri State University majors in o	hemistry may	Eligible Missouri State	University majors in che	mistry may apply
apply for preliminary acceptance into the M			ance into the Master of	
Science program in Chemistry after admission	on		ission requirements for	
requirements for the accelerated masters of	ption have		een satisfied. If accepte	
been satisfied. If accepted, graduate course	s chosen from		en from CHM 633 602 , C	
CHM 633, CHM 642, CHM 675, and CHM 60		642, CHM 652, and CH	M 675, may be counted	towards both
counted towards both the undergraduate ar	nd graduate	the undergraduate and	graduate degrees, with	a maximum of
degrees, with a maximum of 12 credit hours			d towards both the unde	
towards both the undergraduate and gradua		graduate degrees. This	s option offers an oppor	tunity for
This option offers an opportunity for chemis		chemistry majors with	undergraduate laborato	ry research
with undergraduate laboratory research exp			e the requirements for t	
complete the requirements for the Master of			nistry in two semesters	
degree in Chemistry in two semesters and a			helor's degree, rather th	
attaining the Bachelor's degree, rather than			ummer. Contact the De	•
four semesters and a summer. Contact the	•	Chemistry for further in	nformation and guidelin	es.
Chemistry for further information and guide	lines.			
Title change X Course changes of under 18 hours Course changes of 18 hours or more REASON FOR PROPOSED CHANGE CHM 633 course is being deleted but is alread 652 (Biochemistry II) as a possible accelerated councily committee the Master of Science program have been satisfied. If accepted, graduate cours may be counted towards both the undergraduate both the undergraduate and graduate degrees. Ilaboratory research experience to complete the and a summer after attaining the Bachelor's de Department of Chemistry for further informatic DEPARTMENT: Route according to ART VI, Se signed forms to one of the following (please of the program needs to go through more than council/ committee marked.	From prog Program of y offered as CHI I course to be con yped) le Missouri State in Chemistry af ses chosen from the and graduate of This option offer requirements for gree, rather than on and guideline ic 3B(1-4) of Byli- check all that ap n one committe	University majors in charter admission requirement CHM 602, CHM 607, Clegrees, with a maximum s an opportunity for chentre the Master of Science of the typical four semesters. The Faculty Senatory and send to first courter council, forward one as	emistry may apply for protest for the accelerated may be accelerated m	reliminary asters option CHM 675, ted towards graduate vo semesters et the sup to 12 d, originally 1). 1 additional
X College Council	(Send all underg before forwardi	raduate program changes t ng either to PEC, CGEIP, or	hrough College Council as directly to Faculty Senate)	first step
Professional Education Committee	(Considers all pr Specialist degree	ogram changes affecting BS es)	and MS in Education and	Educational
Committee on General Education and Intercollegiate Programs	(Considers all ge	neral education and multi-	college program changes)	
_X Graduate Council	(Considers all gr	aduate-level program chan	-	
Signature / (4)	<	- 10	131/701	

(Routing on Reverse Side)

Department Head

FS Program Change - 9/10/2010

DepartmentChemistry	10/31/2011
itle of Program Affected Chemistry (Comprehensive) Bac	chelor of Science
	Certificate Certification Academic Rules Other
Present Catalog Description (Cut and paste from web catalog or use most recent description.)	Revised Catalog Description (Cut and paste description again, strikethrough all deletions, and insert and bold new information.)
Chemistry (Comprehensive) Bachelor of Science A. General Education Requirements - see General Education Program and Requirements 1. CHM 160(4)*, 161(1)*, 170(3), 171(1), 302(5), 342(5), 343(5), 375(3), 398(1), 452(3), 498(1), 506(3), 507(3), 508(2), 533(4), 575(3) 2. Related science and mathematics requirements: MTH 287* and 288(6) or MTH 261* and 280(10) or MTH 261* and 288(8); PHY 123* and 124(8) or PHY 203* and 204(10); Recommended CSC 111(3)* 3. Complete requirements in one of the following options: a. Biochemistry: This program is designed for students preparing for a career in medicine or graduate study in biochemistry. Required courses: CHM 399(1-3) or 499(1-3), 453(2), 552(3), 553(2); BIO 121(4)*, 235(4), 320(4) Suggested electives: BIO 310(5). Premedical students should also take courses in anatomy and physiology. b. Graduate School: This program is designed for students preparing for graduate study in chemistry. Required courses: CHM 376(2), 499(1-3), 509(2); Select one: CHM 514(3), 542(3), 552(3). Suggested electives: one year foreign language c. Industrial: This program is designed for students preparing for industrial positions upon completion of the B.S. degree, but who wish to be prepared for future entry into graduate school. Required courses: CHM 376(2), 509(2), 514 or 542(3), four hours selected from 397(2), 399(1-3), 499(1-3) *Will also count toward General Education Requirements C. General Baccalaureate Degree Requirements - see General Baccalaureate Degree Requirements - see General	Chemistry (Comprehensive) Bachelor of Science A. General Education Requirements - see General Education Program and Requirements section of catalog B. Major Requirements 1. CHM 160(4)*, 161(1)*, 170(3), 171(1), 302(5), 342(5), 343(5), 375(3), 398(1), 452(3), 492 (0), 498(1), 502 (4), 506(3), 507(3), 508(2 533(4), 575(3)) 2. Related science and mathematics requirements: MTH 287* and 288(6) or MTH 261* and 280(10) or MTH 261* and 288(8); PHY 123 and 124(8) or PHY 203* and 204(10); Recommended CSC 111(3)* 3. Complete requirements in one of the following options: a. Biochemistry: This program is designed for students preparing for career in medicine or graduate study in biochemistry. Required course CHM 399(1-3) or 499(1-3), 453(2), 552(3), 553(2); BIO 121(4)*, 235(4), 320(4) Suggested electives: BIO 310(5). Premedical students should also take courses in anatomy and physiology. b. Graduate School: This program is designed for students preparing for graduate study in chemistry. Required courses: CHM 376(2), 499(3), 509(2); Select one: CHM 514(3), 542(3), 552(3). Suggested electives: one year foreign language c. Industrial: This program is designed for students preparing for industrial positions upon completion of the B.S. degree, but who wish to be prepared for future entry into graduate school. Required courses: CHM 376(2), 509(2), 514 or 542(3), four hours selected from 397(2), 399(1-3), 499(1-3) *Will also count toward General Education Requirements C. General Baccalaureate Degree Requirements - see General Baccalaureate Degree Requirements section of catalog

REASON FOR PROPOSED CHANGE

The chemistry department wishes to continue assessing our graduating majors via administration of the chemistry Major Field Achievement Test (MFAT). However, administration of the MFAT is currently strictly coupled to taking CHM498 Chemistry Careers. Students have expressed a strong desire to be able to take CHM498 earlier than their graduating semester to prepare them for the job application process. Therefore the department wishes to decouple this course from completing the MFAT. We are therefore following the model of the Political Science department who have developed a zero credit course (CHM492) explicitly for administration of a comprehensive assessment exam such as the MFAT.

CHM533 is no longer taught, and the material has been incorporated into other courses (CHM502/602), which are now part of the major program. No change in hours results. Materials for deleting CHM633 have been included as a courtesty.

COMPLETE NEW CATALOG INFORMATION (Typed)

Chemistry (Comprehensive) Chemistry (Comprehensive)

Bachelor of Science

A. General Education Requirements - see General Education Program and Requirements section of catalog

B. Major Requirements

- 1. CHM 160(4)*, 161(1)*, 170(3), 171(1), 302(5), 342(5), 343(5), 375(3), 398(1), 452(3), 492 (0), 498(1), 502 (4), 506(3), 507(3), 508(2),
- 2. Related science and mathematics requirements: MTH 287* and 288(6) or MTH 261* and 280(10) or MTH 261* and 288(8); PHY 123* and 124(8) or PHY 203* and 204(10); Recommended CSC 111(3)*

3. Complete requirements in one of the following options:

- a. Biochemistry: This program is designed for students preparing for a career in medicine or graduate study in biochemistry. Required courses: CHM 399(1-3) or 499(1-3), 453(2), 552(3), 553(2); BIO 121(4)*, 235(4), 320(4) Suggested electives: BIO 310(5). Premedical students should also take courses in anatomy and physiology.
- b. Graduate School: This program is designed for students preparing for graduate study in chemistry. Required courses: CHM 376(2), 499(1-3), 509(2); Select one: CHM 514(3), 542(3), 552(3). Suggested electives: one year foreign language
- c. Industrial: This program is designed for students preparing for industrial positions upon completion of the B.S. degree, but who wish to be prepared for future entry into graduate school. Required courses: CHM 376(2), 509(2), 514 or 542(3), four hours selected from 397(2), 399(1-3), 499(1-3)
- *Will also count toward General Education Requirements
- C. General Baccalaureate Degree Requirements see General Baccalaureate Degree Requirements section of catalog

Total Hours69-87
EC 3B(1-4) of Bylaws of the Faculty Senate. Forward three typed, originally check all that apply and send to first council/committee marked). an one committee/council, forward one additional form for each additional
(Send all undergraduate program changes through College Council as first step before forwarding either to PEC, CGEIP, or directly to Faculty Senate)
(Considers all program changes affecting BS and MS in Education and Educational Specialist degrees)
(Considers all general education and multi-college program changes)
(Considers all graduate-level program changes)
Date 10/31/11 (Routing on Reverse Side) FS Program Change - 9/10/2010

epartment	Chem	nistry			Date	10/31/2	011
itle of Program Affect	ed Chem	nistry (Non-	comprehens	ive) Bachelo	r of Science		
Major X Comprehens	ive Maior	Option	Minor	Certificate_	Certification	Academic Rules	Other
Present Catalog Descrip (Cut and paste from web ca	tion		cription.)	(Cut and pa	atalog Description ste description again, s formation.)	strikethrough all deletion	s, and insert and
Chemistry (Non Bachelor of Science A. General Education R. Program and Requirements 1. CHM 160(4)*, 161(1): 343(5), 375(3), 398(1); 508(2); 498(1), 502(4); *Will also count toward 2. Chemistry electives (categories: a. For a basic chemistry emphasis, at least eight 499 (2-3), 460(3), 509(2) b. For students with a st CHM 460(3), 461(3), 461 c. For students with a st medicine: CHM 452(3) d. For a specific area of c: at least nine hours of selected in consultation approved by the departr 3. Related science and r 280(10) or MTH 261* at 123* and 124(8) or PH C. Minor Required (or D. General Baccalaurea Baccalaurea Degree Feature 1.	equirements - nts section of *, 170(3), 17 505(4) or 506 and one hour General Edu 3-10 hours) fi program with hours from C) rong interest 52(2) rong interest 453(2), 552(interest not in chemistry co with the stud nent head. nathematics r and 288(8) or 4 203* and 2 second major te Degree Re	see General catalog 1(1), 302(5), (3) and CHM from CHM 3 cation Requirements aspecification aspecification aspecification aspecification aspecification aspecification aspecification biochemis (3), 553(2) and (10) and (10) are seen that the catalogue of the cat	Education 342(5), 1507(3) and 197, 399 or 499 rements e following c area of 376(2), 399 or ental chemistry try or pre- tegories a, b, co red 300 or abovaic advisor and MTH 261* ar and 288(6); PH see General	Bachelor A. Genera and Requi B. Major 1. CHM 1 343(5), 37 492 (0), 4 *Will also 2. Chemis categories a. For a b least eigh 509(2) b. For stu 460(3), 4 c. For stu CHM 457 d. For a s least nine in consul the depar 3. Relate (Y 280(10) o and 124(C. Minor D. Gener	of Science al Education Requirer frements section of ca Requirements 60(4)*, 161(1)*, 170 75(3), 398(1); 505(4) 98(1), 502(4); and or occunt toward Generative electives (8-10 has) asic chemistry prograte thours from CHM 3: dents with a strong in 61(3), 462(2) dents with a strong in 2(3), 453(2), 552(3), pecific area of interes thours of chemistry of tation with the student truent head. d science and mather or MTH 261* and 28 8) or PHY 203* and required (or second and Baccalaureate Deg	o(3), 171(1), 302(5), 34 or 506(3) and CHM 5 or 506(3) and CHM 59 ral Education Require ours) from one of the sam without a specific at 52(3), 376(2), 399 or 4 or 553(2) st not included in cate courses numbered 300 nt's academic advisor matics requirements: Na(8) or MTH 287* and 204(10)	42(5), 607(3) and 508(2); 7, 399 or 499 ments following area of emphasis, at 499 (2-3), 460(3), al chemistry: CHM or pre-medicine: gories a, b, or c: at or above selected and approved by MTH 261* and d 288(6); PHY 123 ee General

REASON FOR PROPOSED CHANGE

The chemistry department wishes to continue assessing our graduating majors via administration of the chemistry Major Field Achievement Test (MFAT). However, administration of the MFAT is currently strictly coupled to taking CHM498 Chemistry Careers. Students have expressed a strong desire to be able to take CHM498 earlier than their graduating semester to prepare them for the job application process. Therefore the department wishes to decouple this course from completing the MFAT. We are therefore following the model of the Political Science department who have developed a zero credit course (CHM492) explicitly for administration of a comprehensive assessment exam such as the MFAT.

COMPLETE NEW CATALOG INFORMATION (Typed)

Chemistry (Non-Comprehensive)

Bachelor of Science

A. General Education Requirements - see General Education Program and Requirements section of catalog

B. Major Requirements

1. CHM 160(4)*, 161(1)*, 170(3), 171(1), 302(5), 342(5), 343(5), 375(3), 398(1); 505(4) or 506(3) and CHM 507(3) and 508(2); 492 (0), 498(1), 502(4); and one hour from CHM 397, 399 or 499

*Will also count toward General Education Requirements

2. Chemistry electives (8-10 hours) from one of the following categories:

a. For a basic chemistry program without a specific area of emphasis, at least eight hours from CHM 352(3), 376(2), 399 or 499 (2-3), 460(3), 509(2)

b. For students with a strong interest in environmental chemistry: CHM 460(3), 461(3), 462(2)

- c. For students with a strong interest in biochemistry or pre-medicine: CHM 452(3), 453(2), 552(3), 553(2)
- d. For a specific area of interest not included in categories a, b, or c: at least nine hours of chemistry courses numbered 300 or above selected in consultation with the student's academic advisor and approved by the department head.
- 3. Related science and mathematics requirements: MTH 261* and 280(10) or MTH 261* and 288(8) or MTH 287* and 288(6); PHY 123* and 124(8) or PHY 203* and 204(10)

C. Minor Required (or second major)

D. General Baccalaureate Degree Requirements - see General Baccalaureate Degree Requirements section of catalog

	Total Hours69-87
signed forms to one of the following (please	EC 3B(1-4) of Bylaws of the Faculty Senate. Forward three typed, originally check all that apply and send to first council/committee marked). an one committee/council, forward one additional form for each additional
x College Council	(Send all undergraduate program changes through College Council as first step before forwarding either to PEC, CGEIP, or directly to Faculty Senate)
Professional Education Committee	(Considers all program changes affecting BS and MS in Education and Educational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all general education and multi-college program changes)
Graduate Council	(Considers all graduate-level program changes) Date
Signature Department Head	Date

(Routing on Reverse Side)

FS Program Change - 9/10/2010

Missouri State University CURRICULAR PROPOSAL NEW COURSE (or new REGULAR SECTION of an existing variable content course)

Department Computer Science	Date September 15, 2011	
Check one: X New COURSE	New REGULAR (i.e. permanent) SECTION of an existing variable content course. If a new regular course, to what existing course is it to be attached?	
PROPOSED CATALOG DESCRIPTION		
An introduction to the main elements structure and responsibilities of a gam team within one year. Students will de	for Writing II and permission of instructor of video game design (including setting, story, goals, narrative, mechanics, and level design) and the e development team. The emphasis will be on game designs that could be implemented by a small esign a game and create a design document. Identical with ART 301. Cannot receive credit for both towards a computer science major. 1(1-0) D	
PURPOSE OF COURSE		
This course is cross-listed with propose	ed ART 301 and is part of a package that includes ART/CSC 301, ART 302, and CSC 303.	
	ent projects for credit within their majors.	
RELATIONSHIP TO OTHER DEPARTME	NTS	
Cross-listed with ART 301.		
300a/05) and forward three typed, or	RT VI, SEC 3B(1-4) of Bylaws of the Faculty. Attach New Course Resource Information form (FS iginally signed forms to one of the following (please check all that apply and send to first burse needs to go through more than one council/committee forward one additional form for each I.	
X College Council	(All new course proposals numbered 100-599 must go through College Council first. After approval, College Council w forward appropriate number of copies to the next committee/ council or directly to the Faculty Senate if no further committee approval is needed.)	
Professional Education Committee (Considers all new courses affecting BS and MS in Education and Educational Specialist degrees)		
X Committee on General Education and Intercollegiate Programs	(Considers all general education and multi-college new course proposals)	
Graduate Council	(Considers all 600-, 700-, and 800-level new courses)	
Signature Kunuh Islu	None council/committee, forward one additional form for each additional council/committee marked. Date $\frac{10/3}{3}$	
Department Head	(Routing on Reverse Side) FS New Course - 9/10/2010	

NEW COURSE RESOURCE INFORMATION

Department Computer Science	Date §	<u>September 15. 2011</u>
Course Number and Title <u>CSC 301 Intro</u>	oduction to Video Game Design	
Anticipated Average Enrollment 15 (Cros	s-listed with ART 301 for 15 additional, 30 total)	Maximum Enrollment Limit 30
Faculty Load Assignment 1	Equated Hours	
1 Is another course being deleted? If so, g	ive course number and title.	
No.		
2 What will this course require in the way	of:	
Additional library holdings?	Nothing.	
Additional computer resources?	Nothing.	
Additional or remodeled facilities?	Nothing.	
Additional equipment or supplies?	Nothing.	
Additional travel funds?	Nothing.	
Additional facultygeneral vs speci	alized? See below.	
Other additional expenses?	Nothing.	
3 If additional faculty are not required, how	wwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwww	
The CSC department will begin offering departmental teaching load. This can "p additional faculty are required.	CSC 450 only once a year instead of every semester, ay" for Eric Shade to teach CSC 301 (and CSC 303)	which will free up three hours in the every spring as part of his standard load. N
cost. Further, there may sometimes be in development company) who could provide	ts in MNAS/CSC who could teach this course; if so dustry experts available (for example, from Black Late new perspectives for our students. We may choosent would usually pay in this case, but CSC could page	antern Studios, a Springfield-based game e to hire them as per-course instructors (at a
List names of current faculty qualified to	teach this course:	
Eric Shade		
What is the anticipated source of students or in place of other courses? If from outs	for this course? (If from within the department, will ide the department, which courses in other department.)	l students be taking this course in addition not not would most likely be affected?)
departments that participate in the Electro	CSC majors. Students in the cross-listed ART 301 wonic Arts program. However, if the course becomes rese that is even remotely similar, so we will not be ta	popular then it may attract students from a

5 Other comments:

students will take this course in addition to other courses.

ART/CSC 301 Introduction to Video Game Design Proposed Syllabus

Textbook

The Art of Game Design: A Book of Lenses Jesse Schell, Carnegie Mellon University

Morgan Kaufman, 2008 ISBN: 978-0-12-369496-6

Purpose of course

Game design is more art than science. This course introduces the student to all the essential aspects of game design, provides principles that often lead to successful designs, and explains the structure of a development team and the logistics and business of game development.

Goals

The student should be able to critically analyze a game, and create a complete game design with appropriate documentation, including a technical and human-resources budget and a project schedule.

Course Outline

- 1. Perspectives: player, designer, publisher
- 2. What players want and expect from a game
- 3. The structure and roles of a development team
- 4. Budgets: financial, technical, and human resources
- 5. The business of games
- 6. Pitching a game
- 7. Design documents
 - a. Story overview
 - b. Design overview
 - c. Detailed design document
 - d. Technical design overview, including production pipeline
 - e. Tutorial, manual, and walkthrough
 - f. Art bible
 - g. Story bible
 - h. Budget and schedule
- 8. The essence of a game
- 9. The game world
 - a. Setting
 - b. Architecture
 - c. Story
 - d. Characters
 - e. Puzzles
 - f. Aesthetics
- 10. Game mechanics
- 11. The user interface
- 12. Interest curves
- 13. Indirect player control
- 14. Level design principles

- 15. Puzzles and mini-games
- 16. Artificial intelligence
- 17. Game balance
- 18. Multiplayer games and online communities
- 19. Playtesting

Coursework

There are four main components: critical analysis of existing games (20%), pitching a game (15%), a detailed game design (50%), and a final presentation (15%).

- 1. Written critical analysis of a game that the student
 - a. has played to completion and enjoyed
 - b. has played a significant part of but did not finish and/or did not enjoy
- 2. The pitch
 - a. 50-word pitch #1 (read anonymously by instructor and critiqued in class)
 - b. 100-word pitch #2 (read anonymously by instructor and critiqued in class)
 - c. Two-minute audio pitch emailed to instructor, who responds with audio critique
- 3. Game design documents
 - a. Summary and competitive analysis
 - b. Detailed game design document
 - c. Technical design overview
 - d. Project schedule (for either one or two semesters)
- 4. "News conference" style in-class presentation, with Q&A

Missouri State University CURRICULAR PROPOSAL

NEW COURSE (or new REGULAR SECTION of an existing variable content course)

Department_Computer Science	DateSeptember_15, 2011
Check one: X New COURSE section of an existing variable topics o	New REGULAR (i.e. permanent) SECTION of an existing variable content course. If a new regular ourse, to what existing course is it to be attached?
PROPOSED CATALOG DESCRIPTION	
Prerequisites: ART/CSC 301 and eit Hands-on introduction to video gar scripting. Students may collaborate	e Development for Designers & Programmers her CSC 232 or MED 290 ne development software, emphasizing level design, placement of art assets, lighting, and e with ART 302 students to experience industry-typical workflow between designers, artists towards a computer science major. 1(0-2) D
PURPOSE OF COURSE	
This course proposal is part of a packa	ge that includes ART/CSC 301, ART 302, and CSC 303.
	, ART/CSC 301 together with ART 302 or CSC 303 form a sequence that prepares students to work on ent projects for credit within their majors.
RELATIONSHIP TO OTHER DEPARTME	NTS e interdisciplinary content described above.
300a/05) and forward three typed, or council/committee marked). If the coadditional council/committee marked	RT VI, SEC 3B(1-4) of Bylaws of the Faculty. Attach New Course Resource Information form (FS iginally signed forms to one of the following (please check all that apply and send to first ourse needs to go through more than one council/committee forward one additional form for each l. (All new course proposals numbered 100-599 must go through College Council first. After approval, College Council w forward appropriate number of copies to the next committee/ council or directly to the Faculty Senate if no further committee approval is needed.)
Professional Education Committee	(Considers all new courses affecting BS and MS in Education and Educational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all general education and multi-college new course proposals)
Graduate Council	(Considers all 600-, 700-, and 800-level new courses)
*If the course needs to go through more than Signature Department Head	one council/committee, forward one additional form for each additional council/committee marked. Date //3///
•	(Routing on Reverse Side) FS New Course - 9/10/2010

NEW COURSE RESOURCE INFORMATION

Depar	tment <u>Computer Science</u>	Date September 13. 2011
Course	e Number and TitleCSC 303 Intro	ductory Video Game Development for Designers & Programmers
Antici	pated Average Enrollment_15_	Maximum Enrollment Limit 30
Facult	y Load Assignment 2	Equated Hours
1 Is a	another course being deleted? If so, gi	ve course number and title.
No.		
2 Wh	nat will this course require in the way	of:
	Additional library holdings?	Nothing.
	Additional computer resources?	Nothing.
	Additional or remodeled facilities?	Nothing.
	Additional equipment or supplies?	Nothing.
	Additional travel funds?	Nothing.
	Additional facultygeneral vs spec	alized? See below.
	Other additional expenses?	Nothing.
3 If a	additional faculty are not required, how	w will faculty be made available to teach this course?
dej	e CSC department will begin offering partmental teaching load. This can "pditional faculty are required.	CSC 450 only once a year instead of every semester, which will free up three hours in the ay" for Eric Shade to teach CSC 303 (and CSC 301) every spring as part of his standard load. No
cos	st. Further, there may sometimes be invelopment company) who could provi	nts in MNAS/CSC who could teach this course; if so we could make use of them at no additional adustry experts available (for example, from Black Lantern Studios, a Springfield-based game de new perspectives for our students. We may choose to hire them as per-course instructors (at an ent might pay in this case*, but CSC could also pay if funds are available.
AF "be fire	RT/CSC 301 and CSC 303. Some Ele eneficiaries" of this course, along with mly established, MED will cross-list v	ory year-long senior project. Those who choose to do a video game will be required to take extronic Arts majors from MED choose to do game projects as designers, and thus are primary CSC majors. In addition, it is expected that once the ART/CSC 301 and CSC 303 courses get with CSC 303 so it becomes CSC/MED 303. At that point MED will have part "ownership" of the nat MED might pay for a per-course instructor sometimes.)
Lis	st names of current faculty qualified to	teach this course:
Er	ic Shade	
4 Wi	hat is the anticipated source of student in place of other courses? If from out	s for this course? (If from within the department, will students be taking this course in addition to side the department, which courses in other departments would most likely be affected?)

Because of the prerequisites, most students will come from the CSC department or the Electronic Arts program via the Media track. However, any students who meet the prerequisites are welcome. We expect this to be a popular elective. No other department offers a course that is even remotely similar, so we will not be taking students away from other programs. All students will take this course in

5 Other comments:

addition to other courses.

CSC 303

Introductory Video Game Development for Designers & Programmers Proposed Syllabus

Textbook

Mastering Unreal Technology, Volume I Jason Busby, Zak Parrish, and Jeff Wilson SAMS Publishing, 2009 ISBN: 978-0672329913

Goal

The goal of the course is to learn the elements of UDK (the Unreal Development Kit) that are necessary for designers and programmers. Artists and sound designers need to use third-party tools to create new assets for inclusion in a game, but designers and programmers work entirely within UDK. This course, being only one credit, is not comprehensive, but introduces all the essential concepts and basic skills.

Laboratories

This assumes that there will be 15 two-hour class meetings during the semester, with one laboratory per meeting. Each laboratory will begin with some brief instruction about the day's topic, then for the majority of the time students will work hands-on and complete a laboratory assignment over that topic.

- 1. Introduction to UDK
- 2. World geometry and brushes
- 3. Static meshes
- 4. Materials, part 1
- 5. Materials, part 2
- 6. Lighting
- 7. Terrain
- 8. Building a complete level
- 9. Kismet (scripting), part 1
- 10. Kismet (scripting), part 2
- 11. Kismet (scripting), part 3
- 12. Matinee (scripted in-game cinematics)
- 13. Level optimization
- 14. Level streaming
- 15. Final project demonstrations

Coursework

There are 100 points worth of work. Each lab except the last is worth 5 points, for a total of 60 points. Points per lab are awarded based on degree of completion of the assigned tasks. Time is a factor, so students will be advised to prepare for each lab. Students who finish early may gain bonus points by assisting those still working. The remaining 40 points will be a team project that includes all the elements discussed during the semester. The project need not be a game, but it must be a "proof-of-concept" that demonstrates one or more *aspects* of a game, and it must demonstrate mastery of the material. Of those 40 points, 10 will be for a design document explaining the goals and technical details of the project; the remaining 30 will be for an in-class demonstration during the final class meeting.