3-5-2015

Curriculum Subcommittee Minutes, March 5, 2015

Utah State University

CURRICULUM SUBCOMMITTEE MINUTES
5 March 2015

A meeting of the Curriculum Subcommittee of the Educational Policies Committee was held on 5 March, 2015 at 2 p.m. in Old Main 136 (Champ Hall Conference Room).

Present: Ed Reeve, Chair, College of Agriculture and Applied Sciences
Nicholas Morrison, Caine College of the Arts
Barbara Williams for Michele Hillard, Secretary
Roland Squire, Registrar's Office
Steve Beck, Graduate Council
Mike Lyons, College of Humanities and Social Sciences
Richard Mueller, College of Science
Scott Hunsaker, Emma Eccles Jones College of Education and Human Services
Dean Adams, College of Engineering
Betty Hassell, USU-Eastern
Norm Jones, General Education Subcommittee Chair
Matthew Ditto, USUSA
Heidi Kesler, Curriculum Retention
Nathan Straight, Regional Campuses
Janet Anderson, Office of the Provost
Kacy Lundstrom, Libraries
Karen Mock, S.J. & Jessie E. Quinney College of Natural Resources

Absent: Larry Smith, Chair, EPC
Frank Caliendo, Jon M. Huntsman School of Business
Derek Hastings, Graduate Studies Senator
Scott Bates, Chair, Academic Standards

Visitor: Dawn Kirby, Associate Dean, College of Humanities and Social Sciences
Gretchen Peacock, Department Head, Psychology
Ron Gillam, Faculty, Communicative Disorders and Deaf Education
Kristine Miller, Director, Honors

Approval of the minutes of the 5 February 2015 meeting. (see attached)
Motion to approve the minutes of the February 5, 2015 Curriculum Committee made by Norman Jones. Seconded by Dean Adams. Minutes approved.

College of Agriculture and Applied Sciences

Motion to approve the business of the College of Agriculture and Applied Sciences made by Richard Mueller. Seconded by Nicholas Morrison.

Landscape Architecture and Environmental Planning

Course	Cr.	Title	Type	Details	Offered	Effective
LAEP 4040/ 6060	3	E Studio/Entrepreneurship in Planning and Design	New Course	E Studio stands for "entrepreneurship" an attribute of high quality planning and design. This communication intensive course positions students for professional practice through preparing work for and competing in national competitions. Prerequisite: LAEP 4100	Spring	Fall 2015

				or 6100.		
Plant Soils and Climate						
Course	Cr.	Title	Type	Details	Offered	Effective
PSC/ BIOL 6950	2	Navigating Science's *Terra Incognita*: Communicating to Non-Scientists	New Course	Graduate students learn to communicate their research to lay audiences by identifying the audience and appropriately tailoring the most relevant points of that research.	Fall	Fall 2015
			Pass/Fail	Pass/Fail Only		

Caine College of the Arts

Motion to approve the business of the Caine College of the Arts made by Nicholas Morrison. Seconded by Dean Adams.

Art and Design

Course	Cr.	Title	Type	Details	Offered	Effective
ART 1140	3	4D Design: Time Research	New Course	This 3-credit course is an introduction to the relationship of time with that of Art & Design, which includes discussing: duration, tempo, intensity, scope, setting, and chronology as the six major elements of time design. Restriction: Art & Design Department students only.	Fall, Spring	Fall 2015
ART 4370	3	Illustration Studio	Inactivate Course	Resources bot available to teach	N/A	Fall 2015
ART 6250	1-9	Graduate Printmaking Studio	Credit Hour Change/Repeatable	Restriction: Permission of Instructor	Fall, Spring	Spring 2016
			Credit Hour Change	change to 1-9		
ART 6260	3	Graduate Book Arts	New Course	Investigation into advanced processes and techniques employed in creating hand bound books. Includes exploring traditional and contemporary book forms and binding techniques, relating concept, form, and context, incorporating image and text. Graduates investigate the book form as installation or interactive sculpture and how it relates to emphasis media.	Spring	Spring 2016

			Repeatable	Repeatable for credit.		
ART 6370	3-9	Graduate Illustration Studio	Inactivate Course	The department discontinued the illustration emphasis years ago.	n/a	Fall 2015
ART 6710	3	Graduate Greek and Roman Art	Delete Course	We no longer offer this course.	n/a	Fall 2015
ART 6900	3	Professional Practices	Title Change	Current title: Critical Theory and Contemporary Issues	Fall	Spring 2016
			Description Change	Designed to familiarize graduate students with practical experiences shared by all studio disciplines, including researching opportunities, financing, and practicing a post-graduate career in the studio. Explores preparation of a portfolio, writing materials, and documentation of studio works for individualized application strategies. Details extensive research into employment possibilities, such as teaching, gallery and museum positions, and artist residencies.		
ART 6930	3	Professional Practices	Delete Course	This course is no longer offered.	n/a	Fall 2015
ARTH 5720	3	Central European Art	Inactivate Course	We do not currently have a faculty member who can teach this course but we may at some time in the future.	Fall	Fall 2015
Music						
Course	Cr.	Title	Type	Details	Offered	Effective
MUSC 1600	1	Voice Techniques	Course Description Change	Acquaints the non-vocal music Education major with the vocal instrument; its mechanism, terminology, and techniques. Restriction: Pre-Program Music, Music, Music Education, and Music Therapy Majors only. (Has been sent to CTE and awaiting signature).	Fall, Spring	Spring 2016

MUSC 1800	1	Percussion Techniques	Course Description Change	Provides basic playing experience and theoretical understanding of percussion instruments. Designed for Music Education majors. Restriction: Pre-Program Music, Music, Music Education, and Music Therapy Majors only. (Has been sent to CTE and awaiting signature).		
MUSC 3785	1	Marching Band	Course Number Change	Current: MUSC 2720 Marching Band utilizes musical and technical skills which began developing in middle school and/or high school. Marching Band requires integrating musical ability with complex physical activity to produce both a visual and musical artistic expression. Students are exposed to new music weekly from all genres and are involved in the creative process of creating their own visual moves.	Fall	Spring 2016 Note: Please see the Gen Ed form attached. (DHA) Needs to go to Gen Ed.

Jon M. Huntsman School of Business

Motion to approve the business of the Jon M. Huntsman School of Business made by Frank Caliendo. Seconded by Richard Mueller.

Management Information Systems

Course	Cr.	Title	Type	Details	Offered	Effective
MGT 6735	2	Continuous Improvement in a Lean Environment	New Course	This course introduces students to the tools and techniques of continuous improvement in a lean manufacturing environment. Topics to be covered include Six Sigma, 5S, Mistake Proofing, Process Level Value Stream Mapping. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015
MGT 6750	2	Leadership and Human Capital in a Lean Environment	New Course	This course introduces students to principles of leadership, human capital development, and organizational culture in a lean manufacturing environment. Topics to be covered include creating a lean culture, managing culture change, motivation, developing human capital, and creating effective team based environments. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015

MGT 6755	2	Managing in a Lean Environment	New Course	This course examines the roles and responsibilities of management in a lean manufacturing environment. Topics to be covered include Strategy Deployment, Business Level Strategic A3's, Daily Management, Gemba Walks, and Leader Standard Work. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015
MGT 6756	2	Managing the Supply Chain in a Lean Environment	New Course	This course introduces students to supply chain principles in a lean manufacturing environment. Topics to be covered include establishing customer based pull, leveling production, managing material flow based on Kanban, driving pull to suppliers, and the use of information and metrics to achieve intra/inter-organizational alignment. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015
MGT 6757	2	Measurement and Reporting in a Lean Environment	New Course	This course introduces students to principles of measurement and accounting in a lean manufacturing environment. Topics to be covered include lean accounting, target costing, transaction reduction, value engineering/analysis, and the balanced scorecard. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015
MGT 6758	2	Quality Systems in a Lean Environment	New Course	This course examines Quality Systems in a lean manufacturing environment. Topics to be covered include Work Instruction Documents (WID), Standard Operating Procedures (SOP), Validation Procedures, Design of Experiments (DOE), Root Cause Analysis, the Voice of the Customer, and the Quality Roadmap. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015
MGT 6759	2	Work Systems in a Lean Environment	New Course	This course introduces students to the tools, processes, and systems used in a lean manufacturing environment to design and implement work activities consistent with the principle of waste reduction. Topics to be covered include but are not limited to Standard Work, Gemba Walks, Cell Design, One Piece Flow, Jidoka, and Total Productive Maintenance. Prerequisite: ACCT 6350, FIN 6420, and MGT 6720.	Fall, Spring, Summer	Fall 2015

MGT 6800	3	Shingo Model Practicum	New Course	In this course, students will learn about the Shingo Model and the Shingo Guiding Principles, and how the model and principles help drive enterprise excellence. Students will also learn how to use the Shingo evaluative process to constructively assess an organization's implementation of the principles. Prerequisite: ACCT 6350, FIN 6420, MGT 6520, and MGT 6720.	Fall, Spring, Summer	Fall 2015

Emma Eccles Jones College of Education and Human Services

No Business

College of Engineering

Motion to approve the business of the College of Engineering made by Dean Adams. Seconded by Nicholas Morrison.

Biological Engineering

Course	Cr.	Title	Type	Details	Offered	Effective

Civil and Environmental Engineering

CEE 5600/ 6600	2	Environmental Chemistry of Inorganic Contaminants	Dual List Change	Dual-listing this course will allow undergraduate students to take the course as a technical elective.	Spring: Taught Alternate Years, Even Years	Spring 2016

Electrical and Computer Engineering

Course	Cr.	Title	Type	Details	Offered	Effective
ECE 5600	3	Introduction to Computer Networks	Prerequisite Change	ECE 3620 and either MATH 5710 or STAT 3000. Restriction: Student must be in the Professional Engineering Program or have Graduate Standing.	Fall	Fall 2015
ECE 6750	3	Computer Architecture	New Course	Modern architecture fundamentals, instruction set analysis and design, pipelined and superscalar architectures, software-hardware interaction, memory hierarchy, virtual memory stresses, and evaluation of multi-level systems. Prerequisite: ECE 5720 or equivalent. Restriction: student must be in the Professional Engineering Program or have Graduate Standing.	Spring	Fall 2015
ECE 5750/ 6750			Dual-List	Dual listing this course will allow graduate students to have the same course topics as the 5xxx level course, and an additional research-oriented paper presentation experience.		

ECE 6780	4	Real-Time Systems	New Course	Real-time system design and implementation of basic concepts, including modeling, scheduling, resource access control, synchronization, and communication. Emphasis placed on both theory and practice. Exploration of open topics and current challenges in designing real-time systems. Includes hands-on implementation. Three lectures, one lab. Prerequisites: ECE 5720. Restriction: Student must be in the Professional Engineering Program or have Graduate Standing.	Spring	Fall 2015
ECE 5780/ 6780			Dual-List	Dual listing this course will allow graduate students to have the same course topics as the 5xxx level course, and an additional research-oriented paper presentation experience.		

College of Humanities and Social Sciences

Motion to approve the business of the College of Humanities and Social Sciences made by Mike Lyons. Seconded by Norm Jones.

History

Course	Cr.	Title	Type	Details	Offered	Effective
RELS 3060	3	Introduction to Judaism	New Course	This course provides a multidisciplinary survey of Judaism, from its Biblical origins to modern times, including an introduction to its sacred texts, religious practices, and social dimensions. There are no prerequisites for this course.	Fall, Spring	Spring 2015
HIST/ RELS 3270	3	The Crusades	New Course	This course follows the evolution of the concept of holy war in Europe, western Asia, and North Africa from the European campaigns to Jerusalem in the 1000s CE to the expansion of the Muscovite and Ottoman empires in the 1500s.	Fall	Spring 2015
HIST 4150	3	Japan, Europe, and the Early Modern World	New Course	Provides a comparative view of encounters between the societies of Early Modern Europe and Tokugawa Japan.		Spring 2015
HIST/ RELS 4565	3	Early Islamic History	New Course	This course focuses on the history of the Islamic world to the 1400s, beginning in sixth-century Arabia and ending with the conversion of the western Mongol states to Islam and the rise of the Ottoman Empire.	Fall	Fall 2015

Journalism and Communication

Course	Cr.	Title	Type	Details	Offered	Effective

CMST 4570	3	Quantitative Communication Studies Research Methods	New Course	This course introduces students to quantitative research methods used to investigate human communication. Students will learn how to use statistics to conduct and interpret research designed to answer important questions in the field. Prerequisites: CMST 2110 (or permission of instructor) and either STAT 1040 or STAT 1045.	Spring	Spring 2015
JCOM 2020	3	Communication Research Methods (QI)	Prerequisite Change	STAT 1040, STAT 1045, STAT 2000, STAT 2300 or AP STAT with a test score of at least 3; and a minimum grade of C+ in JCOM 1500 or JCOM 2010.	Fall, Spring	Spring 2016
JCOM 2300	3	Introduction to Public Relations	Prerequisite Change	Minimum grade of C+ in JCOM 1500 and JCOM 2010. May be taken concurrently with (but not before) JCOM 1130.	Fall, Spring	Spring 2016
JCOM 3030	3	Corporate Communications	New Course	Communications and public relations professionals must have solid interpersonal, small group, public speaking and organizational communications skills to be effective in whatever organizational structure they find themselves in. They must also know how to lead, coach, and train their internal and external clients to be better communicators within their own organizations. This class was developed to give students an opportunity to learn and apply basic skills in those areas.	Spring	Fall 2015
JCOM 3110	3	Feature Writing (CI)	Title Change	The old title (Beyond the Inverted Pyramid) did not adequately convey what the course was about.	Fall	Spring 2016
			Description Change	Intensive feature-writing course emphasizing the research, writing, editing, and marketing of articles for magazines, newspapers, online sites, and other publications.		
			Prerequisite Change	Minimum grade of C in JCOM 2020, JCOM 2220, JCOM 3200.		
JCOM 3320	3	Strategic Research methods in public Relations (DSS)	Prerequisite Change	Minimum grade of C in JCOM 2020, JCOM 2220, JCOM 3200.	Fall, Spring	Spring 2016

JCOM 4040	3	Social Media	New Course	This class works with real-world clients to devise a social media strategy and implement it throughout the term. Students learn theory and real-world skills, including digital writing for multiple platforms, designing a social media business plan, and using analytics. Prerequisites: Must meet one of the following: 1. Minimum grade of C+ in JCOM 1130; 2. Minimum grade of C in JCOM 3100, JCOM 3110, or JCOM 3310; or 3. Permission of the Instructor	Fall, Spring	Fall 2015
JCOM 4210	4	Newscast I (CI)	Prerequisite Change	Minimum grade of C in JCOM 2020, JCOM 2220, JCOM 3200.	Fall, Spring	Spring 2016
Language, Philosophy and Communication Studies						
Course	Cr.	Title	Type	Details	Offered	Effective
CHIN 1080	3	Intensive Chinese Reading and Writing	New Course	This course is designed to fine tune and strengthen reading and writing skills for students studying Chinese. Students at varying levels of experience can benefit from this intensive review. Prerequisite: CHIN 1010	Fall, Spring, Summer	Spring 2015
CMST 5800	1	Communication Studies Senior Capstone	Prerequisite Change	CMST Major and completed at least twenty-one upper-division credits of CMST coursework or permission of instructor.	Fall, Spring	Spring 2016
PORT 3510	3	Business Portuguese	New Course	This course is designed to help students develop knowledge and understanding in the Portuguese business language and culture. It emphasizes business vocabulary, concepts, conversation, reading, interviewing skills, and resume writing in the target language. Prerequisite: PORT 3040 or permission of instructor based on demonstration of equivalent proficiency through testing.	Fall	Spring 2015
SPAN 3100	3	Spanish for Healthcare Professionals	Course Description Change	Study of medical terminology in Spanish and exploration of Hispanic cultural issues and beliefs affecting delivery of effective, equitable healthcare. Provides conversational practice for medical situations. May feature guest lectures relevant to providing healthcare to Hispanics and other minority populations. Prerequisite: SPAN 3040 or permission of instructor.	Fall	Fall 2015

SPAN 4900	3	Topics of Spanish Cultural Production	Title Change	We believe that this course title better captures what we do in the course and it corresponds better to titles we use for other courses.	Fall, Spring	Fall 2015
Military Science						
Course	Cr.	Title	Type	Details	Offered	Effective
MSL 4610	3	Military History Seminar	Inactivate	This was a trip to Gettysburg during the summer. This trip had not been arranged for the last four years. If and when we add it to our budget, we will add it back onto the course catalog.	Summer	Spring 2015
Political Science						
Course	Cr.	Title	Type	Details	Offered	Effective
POLS 4460	3	National Security Policy	Prerequisite Change	ENGL 2010	Fall	Spring 2016
POLS 6280	3	U.S. Institutions	New Course	This course covers core institutions of U. S. government (congress, the presidency, and the judiciary), and basic methods of institutional analysis and how institutions structure individual and collective political action. It includes applications to understanding the public policy process.	Taught Alternate Years	Fall 2015
Sociology, Social Work and Anthropology						
Course	Cr.	Title	Type	Details	Offered	Effective
SOC 4370	3	Sociology of Gender	Delete Course	This course is listed twice in the catalog (4370 and 2370) with an identical course description. We currently only teach the 2000 level course.	n/a	Spring 2015
SOC 4640/ 5640	3	Managing Community Conflict	Title Change	The focus of the course is being broadened (from strictly natural resources to community conflict) in order to meet the needs of SO majors more directly. The ENVS co-listing is being dropped to reflect this change. The course designation is being shifted from 5640/6640 to 4640/5640 to more accurately reflect its role in the curriculum.	Spring	Spring 2016
			Course Number Change	Change 6640 to 4640		

			Course Description Change	This course covers fundamental techniques in successful conflict management at the public/community scale. It has much more a skill-building focus than a theory/literature review emphasis. Process design, facilitation, negotiation, and collaborative problem solving are all addressed. A number of the cases are drawn from natural resource/inter-organizational conflict that is so common in the western U.S.		
			Change Multiple List	Drop ENVS 5640/6640 ENVS needs to inactivate the course		
SOC 4720	3	Effective Community Engagement	Title Change	This course has been limited solely to sociology students, but a change in our curriculum means that it can accommodate students from other programs (it is no longer a required capstone course in sociology). The renaming is intended to appeal to a broader audience.	Spring	Spring 2016
			Description Change	This course uses service learning principles to teach about the practice of community development. The students are exposed to concepts of community development as well as the practice operation of community serving organizations. Each student gets a personalized placement with an organization aligned with their career goals. Section 01 is limited to sociology majors and section 02 is open to all USU students with at least junior standing.		
			Prerequisite Change	No course prerequisites		

S.J. and Jessie E. Quinney College of Natural Resources

No Business

College of Science

Motion to approve the business of the College of Science made by Richard Mueller. Seconded by Dean Adams.

Chemistry and Biochemistry

Course	Cr.	Title	Type	Details	Offered	Effective

CHEM 6700	1-3	Advanced Biochemistry I	Credit Hour Change	Our department has reconfigured the graduate coursework to include a wider variety of courses with lower credit values. In most cases, this class will be offered as a one credit course, allowing students to complete a core of classes in the first year of	Fall	Fall 2016
CHEM 6740	1-3	Cellular Communication by Small Molecules and Proteins	Credit Hour Change	Our department has reconfigured the graduate coursework to include a wider variety of courses with lower credit values. In most cases, this class will be offered as a one credit course, allowing students to complete a core of classes in the first year of	Spring	Spring 2016
CHEM 6760	1-3	Bioenergetics and Metabolism	Credit Hour Change	Our department has reconfigured the graduate coursework to include a wider variety of courses with lower credit values. In most cases, this class will be offered as a one credit course, allowing students to complete a core of classes in the first year of graduate school. As needs change, we want to have the option to offer this course at 1, 2, or 3 credits.	Spring	Spring 2016
GEOL 6580/7580	3	Geochronology and Thermochronology	New Course	Constraining the timing and temp of geological processes is fundamental to geologic research. This course provides an overview of geochronology and thermochronology. Lectures will focus on principles and assumptions of techniques and seminary-style discussions centered on papers applying these methods.	Fall Taught Alternate Years	Fall 2015

University

Motion to approve the business of the Honors department made by Norm Jones. Seconded by Nicholas Morrison.

Honors

Course	Cr.	Title	Type	Details	Offered	Effective
USU 2160	1-3	Student Applied Leadership Training	Repeatable	Sections of USU 2160 serve USU Ambassadors, Statesman, Residence Life, SAAVI, ARC Tutors, A-Team, Supplemental Instruction Leaders, and Student Officers. Repeatable will allow students to repeat under different curriculum.	Fall, Spring	Fall 2015

USU/ HONR 3070	3-6	Interdisciplinary Depth/Honors Interdisciplinary Depth	Credit Hour Change	Currently 5 credits.	Fall, Spring, Summer	Fall 2015
			Course Description Change	Course may combine two or three depth categories (DHA, DSC, DSS) in a variable 3-6 credit course covering 1-2 semesters. Usually team-taught and may include service learning, fieldwork, or undergraduate research. Course fulfills one depth requirement per semester of student enrollment (up to two for a year-long course). Prerequisite: Must meet breadth graduation requirements, QL, CL1, and CL2. Restriction: Honors program students only (for HONR course).		
			Change Multiple List	Honors would like to offer "Think Tank" classes that bring together faculty and students across disciplines to solve local problems over the course of a year for six credits of General Education depth work.		
			Repeatable	Repeatable for additional credit.		
HONR 3035	3	Special Topics: Social Sciences	New Course	Examines the significance of different ideas across history and cultures and connects these important social ideas to contemporary experience. Trains students to think critically and independently about the social sciences and to evaluate interpretations or arguments on these topics. May emphasize a particular discipline, question, or issue. Meets all requirements for Quantitative Intensive courses.	Fall, Spring	Fall 2015
			Repeatable	Repeatable for additional credit.		

Request from the Department of Psychology proposes offering an interdisciplinary doctoral program in Neuroscience. (see attached)
Motion to approve Department of Psychology proposal made by Scott Hunsaker. Seconded by Richard Mueller. Approved

Request from the Department of Sociology, Social Work and Anthropology proposes removal/discontinuation of the Master of Arts degree in Sociology. (see attached)
Motion to approve Department of Sociology, Social Work and Anthropology proposal made by Richard Mueller. Seconded by Nicholas Morrison. Approved

Other Business
N/A

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Present: Larry Smith, Chair, EPC
Ed Reeve, Chair, College of Agriculture and Applied Sciences
Nicholas Morrison, Caine College of the Arts (via conference call)
Roland Squire, Registrar's Office
Michele Hillard, Secretary
Frank Caliendo, Jon M. Huntsman School of Business
Steve Beck, Graduate Council
Mike Lyons, College of Humanities and Social Sciences
Richard Mueller, College of Science
Michael Freeman (for Scott Hunsaker), Emma Eccles Jones College of Education and Human Services
Dean Adams, College of Engineering
Betty Hassell, USU-Eastern
Norm Jones, General Education Subcommittee Chair
Matthew Ditto, USUSA
Jessica Hansen (for Heidi Kesler), Curriculum Retention
Nathan Straight, Regional Campuses
Janet Anderson, Office of the Provost

Absent: Derek Hastings, Graduate Studies Senator
Scott Bates, Chair, Academic Standards
Kacy Lundstrom, Libraries
Karen Mock, S.J. & Jessie E. Quinney College of Natural Resources

Visitor: Dawn Kirby, Associate Dean, College of Humanities and Social Sciences
Lindsey Shirley, Associate Professor, Family and Consumer Sciences Education
Bruce Miller, Department Head, Applied Sciences, Technology and Education
Sheri Haderlie, Faculty, Instructional Technology and Learning Sciences

Approval of the minutes of the 8 January 2015 meeting. (see attached)
Approved

College of Agriculture and Applied Sciences

Richard Mueller moved to approve the business of the College of Agriculture and Applied Sciences. Norm Jones seconded.

Animal, Dairy and Veterinary Sciences

Course	Cr.	Title	Type	Details	Offered	Effective
ADVS 2200	4	Anatomy and Physiology of Animals	Prerequisite Change	BIOL 1620 (BIOL 1620 has been a prereq for ADVS 2200 for several years, but it has not been officially listed in the catalog. Students are more successful in ADVS 2200 if they take BIOL 1620 as a prereq)	Spring	Spring 2016

ADVS 4210	2	Applied Reproduction and Artificial Insemination	Prerequisite Change	ADVS 4200 (Students need to know the fundamental course material that is taught in ADVS 4200 in order to be successful)	Spring	Spring 2016
ADVS 6850	3	Seminar in Veterinary Pathology and Histopathology	New Course	The goal of this course is to develop general veterinary pathology knowledge, basic knowledge of veterinary clinical pathology, and to advance gross pathology and histopathology interpretive skills. It consists of biweekly, 1-hour long microscopic slides and medical literature reviews covering a wide variety of diseases in domestic and on-domestic animals. This course is intended for advanced graduate students and veterinary pathology residents.	Fall	Fall 2015
			Pass/Fail	Pass/Fail Only		

School of Applied Sciences, Technology and Education

Course	Cr.	Title	Type	Details	Offered	Effective
ASTE 4100	3	Agricultural Structures and Environment	Prerequisite Change	MATH 1050	Spring	Fall 2016
BUSN 1111	3	Survey of Accounting	Course No Change	Was ACTG 1111, eliminating the ACTG prefix.	Fall, Spring	Spring 2016
BUSN 2010	4	Financial Accounting	Course No Change	Was ACTG 2010, eliminating the ACTG prefix.	Fall, Spring	Spring 2016
BUSN 2020	4	Managerial Accounting	Course No Change	Was ACTG 2020, eliminating the ACTG prefix.	Fall, Spring	Spring 2016
BUSN 2151	2	Income Tax Preparation	Course No Change	Was ACTG 2151, eliminating the ACTG prefix.	Spring	Spring 2016
BUSN 2800	2	Computerized Accounting	Course No Change	Was ACTG 2800, eliminating the ACTG prefix.	Spring	Spring 2016

Caine College of the Arts

Nicholas Morrison moved to approve the business of the Caine College of the Arts. Richard Mueller seconded.

Art and Design

Course	Cr.	Title	Type	Details	Offered	Effective
ART 1110	3	Drawing I (Art Majors Only)	Delete Course	We are eliminating "majors only" sections and putting department restrictions on all six foundations courses in order to offer a sufficient number of sections to allow any student who is in the Art Department to register for these courses. This will help alleviate problems our students have in getting into these bottleneck courses.	N/A	Fall 2015

ART 1150	3	Two-Dimensional Design (Art Majors Only)	Delete Course	We are eliminating "majors only" sections and putting department restrictions on all six foundations courses in order to offer a sufficient number of sections to allow any student who is in the Art Department to register for these courses. This will help alleviate problems our students have in getting into these bottleneck courses.	N/A	Fall 2015
ART 1160	3	Three-Dimensional Design (Art Majors Only)	Delete Course	We are eliminating "majors only" sections and putting department restrictions on all six foundations courses in order to offer a sufficient number of sections to allow any student who is in the Art Department to register for these courses. This will help alleviate problems our students have in getting into these bottleneck courses.	N/A	Fall 2015
ART 3260	3	Introduction to Book Arts	New Course	Investigation into the basic processes and techniques employed in creating hand-bound books. Includes exploring traditional and contemporary book forms and binding techniques, relating concept, form, and context; incorporating image and text.	Spring	Spring 2016
			Restriction	Art BS, Art BA, or Art BFA only		
			Prerequisites	ART ~~1020 or 1110~~, ~~1120 or 115~~0, 1130 or 1160 & 2230 Remove the lined out prerequisites.		
ART 3350	3	Drawing for Illustration	Inactivate Course	The department eliminated the illustration emphasis several years ago but want to reactivate this course so it can be taught in the future.	n/a	Fall 2015
ART 3610	3	Intermediate Sculpture	Restriction	Art BS, Art BA, or Art BFA only	Spring	Spring 2016
ART 3650	3	Intermediate Ceramics: Handbuilding	Restriction	Art BS, Art BA, or Art BFA only	Fall	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 3660	3	Intermediate Ceramics: Throwing on the Potter's Wheel	Restriction	Art BS, Art BA, or Art BFA only	Spring	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 3710	1	Fine Art Seminar	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring	Spring 2016
ART 3810	3	Photography II	Restriction	Art BS, Art BA, or Art BFA only	Spring	Spring 2016

ART 4200	3-6	Advanced Drawing and Painting Studio	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring, Summer	Spring 2016
ART 4210	3	Figure Painting	Restriction	Art BS, Art BA, or Art BFA only	Spring	Spring 2016
ART 4250	1-6	Advanced Printmaking Studio	Restriction	BFA Printmaking Only	Fall, Spring	Spring 2016
			Prerequisites	One of the following: ART 3220, ART 3230, ART 3240, or ART 3250		
			Credit Hour Change			
			Repeatable	Repeatable for additional credit		
ART 4260	3	Life Drawing	Prerequisites	ART 2110	Fall	Spring 2016
			Restriction	Art BS, Art BA, or Art BFA only		
ART 4270	3	Special Topics; Drawing and Painting	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring, Summer	Spring 2016
ART 4370	3	Illustration Studio	Inactivate Course	The dept. eliminated the illustration emphasis several years ago but may want to reactivate this course so it can be taught in the future.	n/a	Fall 2015
ART 4410	3	Graphic Interface Design I	Remove Repeatable	This course may now only be taken by students once, it is no longer repeatable for credit.	Fall	Fall 2015
ART 4430	3	Graphic Interface Design II	Remove Repeatable	This course may now only be taken by students once, it is no longer repeatable for credit.	Spring	Fall 2015
ART 4480	3	Special Topics in Art and Design	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring, Summer	Spring 2016
ART 4610	3	Sculpture Projects	Restriction	Art BS, Art BA, or Art BFA only	Spring	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 42620	3	Sculpture Seminar	Restriction	Art BS, Art BA, or Art BFA only	Fall	Spring 2016
ART 4630	3	Figure Study for Sculpture	Restriction	Art BS, Art BA, or Art BFA only	Fall	Spring 2016
ART 4640	3	Technology of Ceramic Art	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 4650	3-6	Advanced Ceramic Studio	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring	Spring 2016
			Repeatable	Repeatable for additional credit		

ART 4660	1-9	Advanced Sculpture Studio	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 4810	3	Digital Imaging	Restriction	Art BS, Art BA, or Art BFA only	Fall	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 4825	3	Color Photography	Restriction	BFA Photography Only	Fall	Spring 2016
ART 4835	3	Theory of Photography	Restriction	Art BS, Art BA, or Art BFA only	Spring, Odd Years	Spring 2016
ART 4845	3	The Moving Image and Video Art	Prerequisite	ART 3810 (remove permission of instructor)	Spring	Spring 2016
			Restriction	Art BS, Art BA, or Art BFA only		
ART 4855	3	View Camera and Large Format	Prerequisite	ART 3810	Spring	Spring 2016
			Restriction	Art BS, Art BA, or Art BFA only		
ART 4865	3	Nineteenth Century Photographic Processes	Prerequisite	ART 3810	Fall	Spring 2016
			Restriction	Art BS, Art BA, or Art BFA only		
ART 4875	3	Photographic Studio	Prerequisite	ART 3810	Fall	Spring 2016
			Restriction	Art BS, Art BA, or Art BFA only		
ART 4885	3	Photographic Portfolio	Prerequisite	ART 4875	Spring	Spring 2016
			Restriction	Permission of Academic Advisor		
ART 4900	1-9	Advanced Internship/CO-OP	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 4920	1-9	Independent Projects	Restriction	Art BS, Art BA, or Art BFA only, Permission of Instructor	Fall, Spring, Summer	Spring 2016
			Repeatable	Repeatable for additional credit		
ART 4930	3	Student Teaching at University Level	Restriction	Art BS, Art BA, or Art BFA only	Fall, Spring, Summer	Spring 2016

Music

Course	Cr.	Title	Type	Details	Offered	Effective
MUSC 1110	3	Music Theory I (BCA)	Prerequisite Change	MUSC 1105 or Instructor Approval	Spring (remove Fall)	Spring 2016

MUSC 1130	1	Aural Skills I	Prerequisite Change	MUSC 1105 or Instructor Approval	Spring (remove Fall)	Spring 2016
MUSC 1500	1	String Techniques	Title Change	There is no String Techniques II course currently offered, so String Techniques I title needs to be updated.	Fall, Spring	Spring 2016
			Course Description Change	Designed to give non-string music education majors a basic playing experience and theoretical understanding of the string instruments.		
			Restriction	Pre-major Music and Music Majors only.		
MUSC 2140	1	Aural Skills IV	Inactivate Course	Course no longer offered or required for any BM emphases.	n/a	Fall 2015
MUSC 2180	1	Computer Applications in Music	Credit Hour Change	Students come in with more content than they did previously so 1 credit satisfies the need.	Fall, Spring	Fall 2015
MUSC 2720	1	Marching Band	Credit Hour Change	Reducing the number of credits will encourage the wider student population to consider joining the Marching Band. MUED degree and degree road map need to reflect credit hour change.	Fall	Fall 2015
MUSC 3030	3	Rock and Roll-Catalyst for Social Change	Description Change	A study of the cultural, economic, social and political impact of rock and other popular music on social groups and movements around the world. Students will be challenged to consider how various types of music influence their own cultural perspectives.	Fall, Spring, Summer	Spring 2016
			Prerequisite Change	Completion of CL and BSS requirements		
			Info Item	Being submitted to Gen Ed for DSS designation		
MUSC 3780	1	Flute Ensemble	Course Description Change	Students play all members of the flute family to gain knowledge about flute ensemble repertoire, rehearsal techniques, and chamber music performance skills. No audition required, but students will be assigned to one hour rehearsal time based on playing ability.	Fall, Spring	Spring 2016
			~~Prerequisite Change~~	~~Remove MUSC 3780~~ Remove the prerequisite change.		
			Restriction	Instructor Approval		
MUSC 4330	3	Clinical and Professional Issues in Music Therapy	Prerequisite Change	MUSC 4310	Spring	Spring 2016
			Restriction	Music Therapy Majors only		
MUSC 4920	1-2	Individual Recital	Restriction	Permission of Instructor	Fall, Spring, Summer	Spring 2016
			Credit Hour Change	Credit change reflects current requirements for music majors.		
			Repeatable	Repeatable for additional credit.		

Theatre Arts

Course	Cr.	Title	Type	Details	Offered	Effective
THEA 1513	3	Stagecraft (BCA)	Restriction	Theatre Major and Minors, or permission of department.	Fall, Spring	Spring 2016
THEA 1713	3	Playscript Analysis (BHU)	Restriction	Theatre Major and Minors, or permission of department.	Fall, Spring	Spring 2016
THEA 3380	3	Drama Across the Curriculum, Grades K-12	Restriction	Admission to one of the Theatre Education concentrations, or Admission to STEP or ELED program, sophomore level or above, or permission of department.	Spring	Spring 2016
THEA 4330	3	Methods of Teaching Drama, Grades K-6	Restriction	Admission to one of the Theatre Education concentrations, or Admission to STEP or ELED program, sophomore level or above, or permission of department.	Fall	Spring 2016
THEA 4340	3	Methods of Teaching Theatre, Grades 7-12	Restriction	Admission to one of the Theatre Education concentrations, or Admission to STEP or ELED program, sophomore level or above, or permission of department.	Spring	Spring 2016
THEA 5960	2-3	Special Topics in Theatre Production	Credit Hour Change	The new joint film concentration with SLCC requires 3 credits for some of its special topics courses. This change in credit hours allows for flexibility based on the program of study requirements and the special topics course being offered.	Fall, Spring	Fall 2015

Jon M. Huntsman School of Business

no business

Emma Eccles Jones College of Education and Human Services

Michael Freeman moved to approve the business of the Emma Eccles Jones College of Education and Human Services. Richard Mueller seconded.

Health, Physical Education and Recreation

Course	Cr.	Title	Type	Details	Offered	Effective
PEP 7940	1-2	Journal Reading Group	New Course	Seminar discussion of recent empirical and theoretical journal articles in pathokinesiology aspects of biomechanics, motor rehabilitation and sensory motor behavior. Pass/Fail Only	Fall, Spring, Summer	Summer 2015

Instructional Technology and Learning Sciences

Course	Cr.	Title	Type	Details	Offered	Effective
ITLS 5230/ 6230	3	Instructional Graphics Production I	Course Description Change	Fundamental practices of using the computer to design and produce a wide variety of instructional graphics. To receive graduate-level credit, students must fulfill additional requirements.	Fall	Summer 2015

ITLS 5290/ 6290	3	Multimedia Production for Instruction and Training	Course Description Change	A guided independent study (capstone) culminating in a project featured in a portfolio. Students will develop a project of their own choosing, exploring advanced topics from prior work and/or learning emerging or new technologies. Project management and interface design covered.	Fall, Spring, Summer	Summer 2015
			Grade Mode Change	Pass/Fail Only		
Special Education and Rehabilitation						
Course	Cr.	Title	Type	Details	Offered	Effective
SPED 6780	3	Ethics & Professional Behavior in Behavior Analysis	New Course	The purpose of this course is to provide students with instruction and practice in the areas of ethics and professional behavior in the field of behavior analysis.	Summer, Taught Odd Years	Summer 2015
SPED 7500	1-3	Leadership Education in Disabilities	Title Change	The title better describes the course	Fall, Spring	Summer 2015
School of Teacher Education and Leadership						
Course	Cr.	Title	Type	Details	Offered	Effective
ELED 4061	3	Teaching Elementary School Mathematics I: Rational Numbers, Operations, and Proportional Reasoning	New Course	Development of pedagogical content knowledge in rational number, operations, and proportional reasoning for teaching grades preschool through grade 6. ~~Understanding~~ Characteristics of instruction, assessment, and intervention will be considered critically. Remove the word understanding.	Fall, Spring	Fall 2015
			Prerequisites	Math 1050 and MATH 2010 or MATH 2020		
TEAL 4710	3	Language and Cultural Diversity in Education	Remove Restriction	Remove: Admission to Teacher Education	Fall, Spring	Fall 2015
TEAL 6850	3	Introduction to Leadership in Student Affairs/Higher Education	New Course	This course provides an introduction to leadership roles in higher education and student affairs agencies and environments.	Fall, Spring, Summer	Fall 2015
TEAL 6860	3	Legal and Policy Issues in Higher Education	New Course	This course introduces students to legal and policy issues in higher education and student affairs.	Fall	Fall 2015

TEAL 6880	3	Internship in Higher Education/Student Affairs	New Course	This course provides an internship experience in higher education and student affairs agencies and environments.	Fall, Spring, Summer	Fall 2015

College of Engineering

Dean Adams moved to approve the business of the College of Engineering. Norm Jones seconded.

Biological Engineering

Course	Cr.	Title	Type	Details	Offered	Effective
BENG 3500	3	Fluid Mechanics in Biological Engineering	New Course	Biological Engineering Fluid Mechanics covers fundamental fluid dynamics with applications in bioreactors, microfluidics, cardiovascular flow, and non-Newtonian fluids. Prerequisites: BENG 2400 or MAE 2300 and MATH 2250 or MATH 2270 & MATH 2280. Restriction: Admission to Professional Program.	Fall	Fall 2015

Civil and Environmental Engineering

Course	Cr.	Title	Type	Details	Offered	Effective
CEE 3160	3	Civil Engineering Materials	New Course	This course introduces the concepts, techniques, and devices used to measure engineering properties of various civil engineering materials. There is an emphasis on load-deformation characteristics and failure modes of both natural and fabricated materials. The required weekly laboratory includes experiments focusing on data collection, data analysis, interpretation and presentation of results. Prerequisite or Corequisite: ENGR 2140 Restriction: Admission to the Professional Program.	Fall	Fall 2015
CEE 3880	1	Civil and Environmental Design I	Title Change	The Environmental Engineers no longer take their own design sequence and take it with the civil students in one combined class. The new title more accurately reflects the current class.	Spring	Fall 2015
CEE 4870	2	Civil and Environmental Design II	Title Change	The Environmental Engineers no longer take their own design sequence and take it with the civil students in one combined class. The new title more accurately reflects the current class.	Fall	Fall 2015
CEE 4880	2	Civil and Environmental Design III	Title Change	The Environmental Engineers no longer take their own design sequence and take it with the civil students in one combined class. The new title more accurately reflects the current class.	Spring	Fall 2015

Computer Science

Course	Cr.	Title	Type	Details	Offered	Effective
CS 4320	3	Information Storage and Retrieval	New Course	Introduces theory, design, and implementation of text-based and Web-based information retrieval systems. Students learn components and operation of search engines providing search services. Components include web crawlers, indexers, link-based ranking algorithms, and recommender systems. Project required. Restriction: 2.0 GPA; grade of C- or better in CS 2420.	Spring	Summer 2015

College of Humanities and Social Sciences

Mike Lyons moved to approve the business of the College of Humanities and Social Sciences. Norm Jones seconded.

History

Course	Cr.	Title	Type	Details	Offered	Effective
HIST 1500	3	Pre-Modern World (BHU)	Title Change	Changing the title to align with HIST 1510. This title will make more sense to students and with changes in faculty will better reflect the course material taught. OLD TITLE: Cultural and Economic Exchange in the Pre-Nineteenth Century World (BHU)	Fall, Spring	Fall 2015
HIST 4822	3	Vietnam War	Course Description Change	This course examines the Vietnam War from multiple perspectives: American and Vietnamese experiences, policies, casualties, popular culture, and enduring legacies. It places the conflict within a global and historical context.	Taught Alternate Years	Fall 2015

Language, Philosophy and Communication Studies

Course	Cr.	Title	Type	Details	Offered	Effective
IELI 1900	1-3	Intermediate Topics in ESL and U.S. Culture	New Course	English as a Second Language study on specific topics or themes. Selected intermediate level language activities will be assigned to allow students to explore aspects of U.S. culture. This course is NOT part of the IELI core curriculum.	Summer	Summer 2015
			P/F	Pass/Fail Only		
			Repeatable	Repeatable for additional credit.		

IELI 2900	1-3	Advanced Topics in ESL and U.S. Culture	New Course	English as a Second Language study on specific topics or themes. Selected advanced level language activities will be assigned to allow students to explore aspects of U.S. culture. This course is NOT part of the IELI core curriculum.	Summer	Summer 2015
			P/F	Pass/Fail Only		
			Repeatable	Repeatable for additional credit.		
SPAN 3550	3	Spanish Culture & Civilization (DHA)	Prerequisite Change	SPAN 2020 or demonstration of equivalent proficiency through testing.	Fall, Spring	Summer 2015
Political Science						
Course	Cr.	Title	Type	Details	Offered	Effective
POLS 5770	3	Strategic Culture	Course Number Change	The course number is being changed to fit within the new graduate curriculum and provide clarity to students to prevent simultaneous interaction in the classroom while registering for two separate classes.	Spring, Taught Alternate Years	Spring 2016
			Discontinue Multi-List	Was POLS 4770/6770. Change both courses to 5770.		
			Prerequisite Change	POLS 2100 or 2200		
Sociology, Social Work and Anthropology						
Course	Cr.	Title	Type	Details	Offered	Effective
SOC 3120	3	Social Statistics I	Prerequisite Change	Six credits in department and one of following with C- or better: MATH 1030, 1050, 1060, 1100, 1210, 1220; STAT 1040, 1045, 2000, 2300.	Fall, Spring, Summer	Fall 2015

S. J. and Jessie E. Quinney College of Natural Resources

Richard Mueller moved to approve the business of the S.J. and Jessie E. Quinney College of Natural Resources. Dean Adams seconded.

Wildland Resources

Course	Cr.	Title	Type	Details	Offered	Effective
WILD 5700	3	Forest Assessment and Management	Course Description Change	Detailed analysis of forest stand structure and growth. Development of silvicultural prescriptions to meet specific objectives. Analysis of costs and benefits of alternative forest management strategies. Emphasizes forest management to achieve a broad range of objectives.	Spring	Fall 2015
			Restriction	WILD majors or instructor permission.		

College of Science
no business

Other Business

Request from the Department of Instructional Technology and Learning Sciences to rename the Master of Education degree to the Master of Education in Educational Technology and Learning Sciences. (see attached)
Motion to approve the proposal made by Michael Freeman. Seconded by Richard Mueller. Motion approved.

Request from the Department of Instructional Technology and Learning Sciences to discontinue all specializations affiliated with both the Education Specialist and Master of Science degree programs. (see attached)
Motion approve the proposal made by Norm Jones. Seconded by Michael Freeman. Motion approved.

Request from the School of Teacher Education and Leadership to approve a specialization in Higher Education/Student Affairs within the existing Master of Education degree. (see attached)
Motion to approve the proposal made by Michael Freeman. Seconded by Matthew Ditto. Motion approved.

Request from the Department of Plants, Soils, and Climate to offer a Landscape Management Certificate. (see attached)
Per the request of Paul Johnson, Department Head, Plants, Soils and Climate this proposal has been put on hold pending college/department questions.

Request from the School of Applied Sciences, Technology and Education to offer a Bachelor of Science degree in Outdoor Product Design and Development degree. (see attached)
Motion to approve the proposal made by Norm Jones. Seconded by Richard Mueller. Motion approved pending minor revisions.

Curriculum Committee deadlines and submissions. (see attached)
This item is being held pending notification from the Faculty Senate as to whether or not they will continue to have their Faculty Forum in November.

Language to define Prerequisite(s) vs. Restriction(s)
Prerequisite(s): A course or courses which must be successfully completed prior to registration. The purpose for prerequisites is to adequately prepare students for the best chance at success in the more advanced course.

Restriction(s): A statement of specific (and enforceable) restriction into a given course. Examples include: restricted to a specific program; permission of instruction required; and advanced standing require. The primary purpose of restrictions is enrollment management although certain restrictions (such as advanced standing) may be used to ensure students are adequately mature or prepared for the course material.

It was mentioned that the definitions/clarifications above should also include the co-requisite. This item is being tabled pending further clarification and necessity.

Meeting adjourned: 3:00 pm

Cover/Signature Page – Full Template

Institution Submitting Request: Utah State University
Proposed Title: PhD in Neuroscience
School or Division or Location: Emma Eccles Jones College of Education and Human Services
Department(s) or Area(s) Location: Department of Psychology
Recommended Classification of Instructional Programs (CIP) Code[1] : 26.1501
Proposed Beginning Date: August 31, 2015
Institutional Board of Trustees' Approval Date: *MM/DD/YEAR*

Proposal Type (check all that apply):

Regents' Agenda Items		
R401-4 and R401-5 Approval by Committee of the Whole		
SECTION NO.		ITEM
4.1.1	☐	(AAS) Associate of Applied Science Degree
4.1.2	☐	(AA) Associate of Arts Degree
	☐	(AS) Associate of Science Degree
4.1.3	☐	Specialized Associate Degree
4.1.4	☐	Baccalaureate Degree
4.1.5	☐	K-12 School Personnel Programs
4.1.6	☐	Master's Degree
4.1.7	☒	Doctoral Degree
5.2.2	☐	(CER C) Certificate of Completion
5.2.4	☐	Fast Tracked Certificate

Chief Academic Officer (or Designee) Signature:
I certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

_____
Signature Date: *MM/DD/YEAR*

Printed Name: *Name of CAO or Designee*

[1] CIP codes must be recommended by the submitting institution. For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

Executive Summary – Full Template
Utah State University
PhD, Neuroscience
12/15/2014

Program Description

Utah State University (USU), Emma Eccles Jones College of Education and Human Services, proposes to offer an interdisciplinary doctoral program in neuroscience. The primary goal of the doctoral program in neuroscience is to provide students with a comprehensive and well-rounded background in cellular, cognitive, and behavioral neuroscience. Students will apply critical theories and discoveries in neuroscience to unanswered questions about normal and disordered processes of sensation, movement, cognition, language, and communication across the lifespan. This goal will be accomplished through a core set of neuroscience courses, advanced electives, and laboratory experiences.

Role and Mission Fit

The proposed doctoral program in neuroscience is consistent with USU's mission "to discover, create, and transmit knowledge through education and training programs at the undergraduate, graduate, and professional levels; through research and development; and through service and extension programs" (R312, 4.1.1). This program specifically addresses USU's goals and objectives for strengthening the graduate program. In addition, the goals of discovery and promotion of excellence in research and scholarship are consistent with this program's focus on producing strong researchers in the neuroscience area. The doctoral program in neuroscience will serve the public need for increased information about neuroscience and a new cadre of researchers who can translate basic discoveries in neuroscience to solving problems in education and rehabilitation.

Faculty

The Neuroscience PhD program will be strongly interdisciplinary, involving faculty in the departments of: Psychology; Biology; Communicative Disorders and Deaf Education; Health, Physical Education, and Recreation; Mathematics and Statistics; Biological Engineering; and Family, Consumer and Human Development. Members of the core faculty are actively engaged in a wide variety of basic and translational neuroscience research projects in the areas of cellular structures, language development, cognitive development, motor development, information processing, memory, decision-making, learning, and teaching. These studies relate to the broad areas of education, child development, and normal aging as well as to individual assessment and treatment practices for patients with neurodevelopmental, neurogenic, and neurocognitive disorders.

Market Demand

Neuroscience is one of the fastest growing areas of research around the world, resulting in an increased demand for doctoral-level graduates to fill a growing number of research, teaching and clinical practice positions in universities, hospitals, and rehabilitation centers. Neuroscience research covers a broad spectrum including molecular and cellular neurobiology, integrative neuroscience, brain imaging, and rehabilitation of individuals with neurological and neurodevelopmental disorders. As a result, the scope of neuroscience and the demand for neuroscience education have grown exponentially. A recent paper that appeared in the journal, *Nature Neuroscience* pointed out that there are numerous disconnects between current findings in neuroscience and educational beliefs and practices. There is a strong need for a new field of inquiry that is dedicated to bridging the gaps between education and neuroscience in order to inform

the understanding of teaching and learning. Neuroscience has much to offer attitudes and approaches in education and human services, and this new program is poised to be at the forefront of this exciting new movement.

Student Demand

There is a strong student demand for neuroscience doctoral programs. The desire to provide programs that students are interested in makes neuroscience programs common in research universities like USU. However, Utah lags other states in the region with regard to providing student access to neuroscience education. For example, the state of Colorado has 97,687 students in 14 universities (http://highered.colorado.gov/Data/Reports.aspx), and there are three Neuroscience PhD programs in the state (the University of Colorado-Denver, the University of Colorado-Boulder and Colorado State University). In Utah, there are 92,882 students in the seven public universities that compose the Utah System of Higher Education, but there is only one Neuroscience PhD program (the University of Utah). That program only admits 12 students per year out of the more than 200 applicants. Clearly, students in Colorado have much more access to neuroscience education than students in Utah, and the number of applicants even within the state far surpasses the current capacity.

Statement of Financial Support

Appropriated Fund……	☐
Special Legislative Appropriation……	☐
Grants and Contracts……	☒
Special Fees ……	☐
Differential Tuition (must be approved by the Regents)……..	☐
Other (please describe)……	☒

The full-time PhD graduate students in this program will receive graduate research or graduate teaching assistantships to help finance their education. The research assistantships will be supported by grants and contracts initiated by the core neuroscience faculty. These grants and contracts will also provide research equipment, materials, and supplies used by the students in their courses and research associated with the PhD degree. In addition, teaching assistantships will be provided by the departments of participating faculty.

Similar Programs Already Offered in the USHE

Interdepartmental Program in Neuroscience, University of Utah

Program Description – Full Template
Utah State University
PhD in Neuroscience
12/15/2014

Section I: The Request

Utah State University requests approval to offer a PhD in Neuroscience effective Fall 2015. This program has been approved by the institutional Board of Trustees on *Date.*

Section II: Program Description

Complete Program Description

The primary goal of the doctoral program in neuroscience is to provide students with a strong educational and research foundation in cellular, cognitive, and behavioral neuroscience. Students will apply critical concepts in neuroscience to understanding normal and disordered processes of sensation, movement, cognition, language, and communication across the lifespan. This goal will be accomplished through a core set of neuroscience courses, advanced electives, and laboratory experiences. Students in the neuroscience doctoral program are expected to align themselves with a focus area. Currently, these include Translational Neuroscience, Educational Neuroscience, and Lifespan Neuroscience. The program will produce experts in experimental and applied research across a variety of academic disciplines.

Purpose of Degree

The neuroscience PhD program at Utah State University will be strongly interdisciplinary, involving faculty in Psychology; Biology; Communicative Disorders and Deaf Education; Health, Physical Education, and Recreation; Mathematics and Statistics; Electrical and Computer Engineering; and Family, Consumer and Human development. The Neuroscience PhD program will serve to connect faculty and students who are currently engaged in neuroscience research related to sensation, information processing, memory, decision-making, language development, cognitive development, motor development, aging, as well as applied clinical neuroscience related to neurodevelopmental, neurogenic, and neurocognitive disorders.

Students in the interdisciplinary neuroscience PhD Program will learn the theoretical, conceptual, and methodological issues involved in neuroscience research within one of three focus areas: Translational Neuroscience, Educational Neuroscience or Lifespan Neuroscience. The Translational Neuroscience focus area emphasizes understanding the signal transduction pathways underlying neurophysiological function in normal and disease states at the molecular, cellular, tissue, system, and organism levels. Students will understand trans-disease processes related to core brain functions that are required for appropriate behavioral regulation, attention, memory, and decision-making. Translational research experiences will combine approaches in genetics, biophysics, electrophysiology, functional imaging, and behavioral analyses in order to explore the mechanisms underlying normal and aberrant neuronal function in a variety of systems across the lifespan. Students will explore the use of animal models as a means for examining underlying causes of neurodevelopmental and neuropsychological disorders starting at the genetic level, working up through fundamental brain functioning, and then observing how these processes are impacted by individual experience throughout the lifespan. Students in this focus area will also understand neurocognitive and neurophysical abnormalities that are the source of a wide range of human disorders including depression, schizophrenia, autism, attention deficit disorder, anxiety, drug addiction, communication disorders, and others.

The Educational Neuroscience focus area is designed to apply the principles of behavioral, cognitive, and biological neuroscience to core problems in education related to cognition, socialization, learning, and/or teaching. Students will explore the anatomical and functional neurological mechanisms that contribute to cognition, language, and literacy development, as well as the relationships between neural activation patterns and children's performance on cognitive, linguistic, communicative, and literacy tasks. This focus area is also designed to help students understand the neurophysiological, neurobiological, and environmental contributions to sensory disorders, intellectual disabilities, communication disorders, learning disabilities, autism spectrum disorders, and motor disorders in children. Students will learn how to combine behavioral experimentation methods with neuroimaging methods (Near Infrared Spectroscopy, EEG, eye-tracking, and pupilometry) to examine processes involved in accessing, manipulating, storing, retrieving, and classifying information and associated changes in activation patterns across micro- and macro-brain structures during information processing tasks. New advances in translational research and research on the principles of neuroplasticity will lead to greater understanding of the best ways to promote brain changes through language, literacy, and STEM education. Research on educational neuroscience should lead to innovative perspectives on the integration of basic research and educational practices and to the development of sound education policies.

The Lifespan Neuroscience focus area will emphasize the study of changes in central and peripheral nervous system structures from infancy to late adulthood with corresponding effects on behavior in domains such as cognition, language and emotion. This focus area includes the neuroscience of movement and how the motor system interacts with sensory, perception, and cognitive systems. Normative changes in attention, memory, executive functions, and other cognitive processes will be juxtaposed with pathological conditions. Areas of study include normal aging; language and communication disorders; movement variability; movement timing/sequences; motor planning; motor learning; and functional recovery in populations with disorders and disabilities such as aphasia, apraxia, Alzheimer's disease, and other dementias. Students may focus on neuropsychological assessment of speech, language, and cognitive-communicative functions; variability across different linguistic populations; and language treatment following stroke, traumatic brain injury, neurosurgery, and degenerative disorders. Course work and research experiences may examine the role of genes, environmental factors, and gene-environment interactions in normal aging, disease-free survival and longevity, as well as examining factors that increase risk for depression and disease states that occur in late-life. In addition to foundational courses in neuroscience, seminars will be offered that are specific to each specialty area.

In their courses, students will develop an appreciation of the cognitive factors that influence patterns of brain activation in human and animal models, and they will learn about the effects of disease on brain anatomy and integrity. In their lab rotations, students will gain hands-on experience with data acquisition, data processing, statistical analysis, and visualization techniques related to research on brain structures and functions before, during, and after neurorehabilitation. Upon completion of the program, students will be prepared to design and conduct state-of-the-art neuroscience research that employs a variety of neuroimaging methods and that contributes to the solution of educational, medical, social, and vocational problems.

Institutional Readiness

Current administrative structures that support graduate programs, including supports from the Office of Research and Graduate Studies as well as college and departmental infrastructures that are already in place will be used to support this program. No new supports or organizational structures are needed. This neuroscience program will be an interdisciplinary program but will be administratively housed in the

Psychology Department. The staff resources (e.g., Graduate Program Coordinator) already in place will be used to support this program. This proposed program will have minimal impact on the delivery of undergraduate courses. Some of the courses currently being taught, that will be part of this program, are open to advanced undergraduate students but this slight increase in offerings for undergraduates will be the only impact on undergraduate programs.

Program Faculty

The numbers in the below table reflect faculty across the seven departments involved in the program. Because this program is interdisciplinary, only program faculty (and not all faculty in the seven participating departments) are reflected in this table.

Program Faculty Category	Faculty Headcount – Prior to Program Implementation*	Faculty Additions to Support Program	Faculty Headcount at Full Program Implementation*
With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)			
Full-time Tenured	12	0	12
Full-time Non-Tenured	7	0	7
Part-time Tenured	0	0	0
Part-time Non-Tenured	0	0	0
With Master's Degrees			
Full-time Tenured	0	0	0
Full-time Non-Tenured	0	0	0
Part-time Tenured	0	0	0
Part-time Non-Tenured	0	0	0
With Bachelor's Degrees			
Full-time Tenured	0	0	0
Full-time Non-Tenured	0	0	0
Part-time Tenured	0	0	0
Part-time Non-Tenured	0	0	0
Other			
Full-time Tenured	0	0	0
Full-time Non-Tenured	0	0	0
Part-time Tenured	0	0	0
Part-time Non-Tenured	0	0	0
Total Headcount Faculty			
Full-time Tenured	12	0	12
Full-time Non-Tenured	7	0	7
Part-time Tenured	0	0	0
Part-time Non-Tenured	0	0	0
Total Program Faculty FTE *(As reported in the most recent A-1/S-11 Institutional Cost Study for "prior to program implementation" and using the A-1/S-11 Cost Study Definition for the projected "at full program implementation.")*	19	0	19

*These numbers reflect faculty across the seven participating departments. Only faculty who will be involved in the Neuroscience PhD program are included.

No new lines are required for this program as existing faculty can cover program needs. However, additional faculty lines would strengthen the program in terms of diversity of course offerings and lab experiences. Opportunities for targeted hires in the neuroscience area will be explored over time.

Staff

Existing staff will be utilized to provide support to the neuroscience program. Although interdisciplinary, the program will be housed in the Psychology Department where the current staff can provide support for admissions, student tracking, etc. As with all doctoral-level program advising, advising duties will be carried by individual faculty mentors as well as the program steering committee which will be comprised of all faculty involved in the Neuroscience PhD program.

Library and Information Resources

No additional library resources will be needed to support this program. Key journals in the neuroscience area (e.g., Cognitive Neuroscience, Journal of Neuroscience, Annals of Neurology, Neuropathology, Neuroscience Research, Neurobiology of Learning and Memory, Current Topics In Behavioral Neurosciences, Neuroscience and Biobehavioral Reviews, Trends in Neurosciences and Annals Of Neurology, Nature Neuroscience) are available digitally at USU's library.

Admission Requirements

Prospective students will submit the standard graduate school application through the School of Graduate Studies. Admissions criteria will be consistent with graduate school requirements, including a 3.0 (or higher) GPA for the last 60 credits and GRE scores for the verbal and quantitative areas at the 40th percentile or above. Students will also submit a statement of interest / letter of intent that should address their fit with the program in terms of research interests that are consistent with current faculty in the program.

Student Advisement

Students will be assigned a faculty advisor at the time they are admitted to the program. This faculty member will remain the student's primary advisor through the student's time in the program. Each student's progress in the program will be reviewed annually by all program faculty in a student review meeting. Students will receive written feedback on their progress following this meeting. The feedback will address progress in the areas of:

- Research skills and progress
- Progress toward completion of the program
- Didactic coursework
- Assistantship performance
- Other accomplishments and/or concerns

Justification for Graduation Standards and Number of Credits

Students entering the program with a bachelor's degree will be required to earn a minimum of 64 credits for graduation. Students entering with a master's degree must earn a minimum of 44 credits. This credit requirement is consistent with other doctoral programs in the sciences at USU and with neuroscience programs across the nation in which the majority of the teaching occurs in the laboratory rather than the classroom. Students will complete 20 hours of core neuroscience courses, 11 hours of statistics and research design, 9 hours of general electives, 12 hours of advanced electives in one of three focus areas, a minimum of 2 lab rotations, qualifying exams, and 12 hours of dissertation credits for a total of 64 credits

post bachelors. The total credit requirement is similar to Boston University and the University of Utah. This credit requirement exceeds that of many doctoral programs in the neurosciences including the University of Colorado at Boulder, Georgetown University, and the University of Montana. The proposed program requires fewer credits than Colorado State University, The University of Wyoming, and the University of Idaho, primarily because in the proposed program students earn fewer graduate credits for their lab experiences and will be required to take fewer dissertation credits.

External Review and Accreditation

There are currently no agencies or associations that accredit programs such as this one. No external consultants were involved in the development of the proposed program.

Projected Program Enrollment and Graduates; Projected Faculty/Students

Data Category	Current – Prior to New Program Implementation*	PROJ YR 1	PROJ YR 2	PROJ YR 3	PROJ YR 4	PROJ YR 5
Data for Proposed Program						
Number of Graduates in Proposed Program	X	0	0	0	0	3
Total # of Declared Majors in Proposed Program	X	3	6	9	12	15
Program Data						
Total Program Faculty FTE *(as reported in Faculty table above)*	19	19	19	19	19	19
Total Program Student FTE *(Based on Fall Third Week)*	N/A	3	6	9	12	15
Student FTE per Faculty FTE *(ratio of Total Program Faculty FTE and Total Program Student FTE above)*	N/A	6.33	3.17	2.11	1.58	1.23
Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable: (Provide ratio here:_____N/A_____)						

*Because this program is new and across different departments, data prior to program implementation cannot be calculated. Projected data reflect student numbers only in this program. It is acknowledged that faculty within this program will also be working with other undergraduate and graduate students outside this program.

Consistent with lab-based graduate programs, entering classes for this program will be small – especially in initial years. It is anticipated that 3-4 new students will enroll each fall. Students entering with bachelor's degrees should be able to complete all requirements for the PhD within 5 years.

Expansion of Existing Program

This program is a new interdisciplinary PhD program and not an expansion or extension of an existing program.

Section III: Need

Program Need

Neuroscience is one of the fastest growing areas of research around the world, resulting in an increased demand for doctoral-level graduates to fill research and teaching positions. As reported by the Society for Neuroscience in the 2011 survey of graduate programs, only 2% of neuroscience program graduates were not employed after graduation and all of those who were employed were in a neuroscience field. Neuroscience research covers a broad spectrum including biophysics, molecular and cellular neurobiology, neuronal development, neuronal degeneration, integrative neuroscience, brain imaging, and neurological and neurodevelopmental disorders. As a result, the scope of neuroscience and the demand for neuroscience education has grown exponentially. As reported by the Society for Neuroscience in their 2011 survey, applicant numbers per neuroscience program averaged 88 (with programs admitting less than a quarter of these students) a significant increase from the average of approximately 22 in 1986.

In a recent paper that appeared in Nature Neuroscience, Paul Howard-Jones (2014) pointed out that there are numerous disconnects between current findings in neuroscience and educational beliefs and practices. Howard-Jones recognized a need for increased communication between educators and neuroscientists and called for a new field of inquiry that is dedicated to bridging the gaps between education and neuroscience in order to inform our understanding of teaching and learning. Neuroscience has much to offer educational attitudes and approaches, and this proposed program is poised to be at the forefront of this exciting new movement.

There is a strong student demand for neuroscience doctoral programs. Within the intermountain region, there are PhD neuroscience programs at the University of Colorado-Denver, the University of Colorado-Boulder, Colorado State University, the University of Montana, the University of Idaho, the University of Wyoming, and the University of Utah. Student demand and the desire to provide programs that students are interested in make neuroscience programs common in research universities like USU. However, none of the existing programs in the intermountain region are housed in a College of Education and Human Services with a focus on making neuroscience discoveries relevant to educators and human services professionals. The three foci in the proposed program, bridging basic and applied neuroscience across the lifespan, are unique to this proposed program.

As one of Utah's two state-supported research universities, Utah State University has focused on hiring strong faculty who conduct cutting-edge research. The proposed PhD program in neuroscience, in addition to adding research strength to the University with a new PhD, will also complement and strengthen current University programs in the Emma Eccles Jones College of Education and Human Services and the College of Science. Faculty and students across departments in these colleges are already collaborating on research in the area of neuroscience. The PhD program in neuroscience will bring these faculty and students together into one program, increasing opportunities for cross-disciplinary learning and collaboration.

Labor Market Demand

In November 2014, Indeed.com listed 598 neuroscience jobs that were available in the US. The Society for Neuroscience listed 341 available jobs in neuroscience. These were largely tenure-track openings in university departments of medicine, biology, bioengineering, neuroscience, or psychology but they are also in private industry and research institutes. According to Indeed.com, 205 openings in neuroscience pay

between $80,000 and $99,000, 128 openings pay between $100,000 and $119,000, and 97 openings pay $120,000 or above. The Neuroscience PhD graduation rate at the University of Utah is approximately 75%. Between 2006 and 2012, 51% of their graduates went on to Postdoc positions or other post graduate school studies, 18% went into Law or Medicine, 10% went into academia as faculty, 8% entered academia as research associates, 3% went into industry, and 3% took non-science positions.

The proposed PhD program in neuroscience will respond to the growing need for neuroscientists, especially those with expertise in applying basic neuroscience discoveries to clinical, behavioral and educational topics and questions. Given the current job market demand as well as the placement rates from the University of Utah's program, it is expected that graduates of USU's program will be well-positioned to move into postdoctoral and other professional positions.

Student Demand

Utah lags other states in the region with regard to providing student access to neuroscience education. For example, the state of Colorado has 97,687 students in 14 universities (http://highered.colorado.gov/Data/Reports.aspx) with three Neuroscience PhD programs in the state (the University of Colorado-Denver, the University of Colorado-Boulder and Colorado State University). In Utah, there are 92,882 students in the seven public universities that compose the Utah System of Higher Education, but there is only one Neuroscience PhD program (the University of Utah). That program only admits 12 students per year out the more than 200 applicants. Clearly, students in Colorado have much more access to neuroscience education than students in Utah and the demand for a neuroscience education in Utah cannot be met by the University of Utah alone.

The labs of faculty participating in this proposed neuroscience program contain undergraduate and graduate students who are interested in obtaining knowledge and research skills in neuroscience. There is a need for a doctoral degree that will enable these students to receive research and academic experiences that focus on molecular, cognitive, behavioral, or educational neuroscience. More students wanting a PhD degree in neuroscience will be able to stay in Utah rather than go out of state. This change will help to keep more talented students in Utah for their doctoral degrees.

Similar Programs

There is an Interdepartmental Graduate Program in Neuroscience at the University of Utah. Neuroscience faculty are housed in the departments of Ophthalmology /Visual Science, Neurobiology and Anatomy, Bioengineering, Biology, Pharmacy, Physiology, Pediatrics, Psychiatry, Neurology, and Psychology. Students complete a basic Neuroscience Program Core Curriculum that includes Frontiers in Neuroscience, Cellular and Molecular Neuroscience, Systems Neuroscience, Neuroanatomy for Biomedical Scientists, Neurophysiology Laboratory, Molecular Biology Laboratory, Neuroscience Rotations, and Developmental Neurobiology. Neuroscience PhD students are required to take a quantitative science/statistics course, an ethics course, a grant writing course, three graded elective graduate-level courses and 3 credit hours of ungraded, departmental journal club courses beyond the core curriculum. The faculty and students are divided into five areas of research: Developmental Neuroscience, Molecular Neuroscience, Neurobiology of Disease, Brain and Behavior, and Cellular Neuroscience.

The main difference between the program at the University of Utah and the proposed program at Utah State University is that the curriculum and research experiences at the University of Utah are focused primarily on basic cellular and molecular neuroscience. The program at USU will focus primarily on applied clinical neuroscience. USU faculty and students are studying such issues as how the human nervous

system learns and executes motor skills, how people with Parkinson's Disease plan and execute sequential actions, how neural processing differs among children who are developing typically and children with developmental language disorders, and how neural activation changes in response to memory or language training.

The state of Utah already has one neuroscience program that focuses on basic neurophysiology. There is a need for another program that focuses on translating basic discoveries in neuroscience into clinical knowledge of human development, education, aging, and neurodevelopmental and neurogenic disorders.

Collaboration with and Impact on Other USHE Institutions

On September 29, 2014, Dr. Ron Gillam from USU met with Dr. Richard Dorsky, the head of the interdisciplinary neuroscience program at the University of Utah. Dr. Dorsky and Dr. Gillam discussed the neuroscience program at the University of Utah and the planned program at Utah State University. Dr. Dorsky noted that the two programs would have a different focus. He said there is a strong need for another neuroscience doctoral program in the state, noting there are many more students who apply for the doctoral program in neuroscience at the University of Utah than they can accept. In addition, there are students who are primarily interested in translational or clinical neuroscience who decide to leave the state for other programs. Dr. Dorsky indicated that a cohort of doctoral students at Utah State University who focus on different aspects of neuroscience would increase the participation of students in the intermountain chapter of the Society for Neuroscience. The program at USU would provide collaborative opportunities for students and it would increase the number of potential postdoctoral applicants. Dr. Dorsky did not believe that the addition of a neuroscience program at USU would have any negative impacts on the program at the University of Utah.

Dr. Gillam is currently collaborating on neuroimaging research with Dr. Richard Wiggins, director of Imaging Informatics and Medical Administrator for the Picture Archiving Communication System at the University of Utah. They are working on a project that compares fMRI imaging and fNIRS imaging during memory and attention tasks.

Benefits

The proposed program will benefit the institution by adding to the doctoral program offerings. Given that USU is focused on increasing graduate enrollments, specifically doctoral enrollments, this program will benefit USU. In addition, the focus on interdisciplinary training will benefit programs at USU that are engaged in similar research and training. In terms of benefits to USHE and the state, as noted in the section above, there is a need for additional neuroscience programs in the state to better meet the needs of students interested in studying neuroscience, and especially the more applied aspects of neuroscience.

Consistency with Institutional Mission

This proposed program is consistent with USU's mission to be a premier university with a focus on graduate (as well as undergraduate) education. USU's graduate education goals and objectives include a strengthening of graduate education, which this program will address. In addition, the goals of discovery and promotion of excellence and research and scholarship are consistent with this program's focus on producing strong researchers in the neuroscience area. The doctoral program in neuroscience will serve the public need for increased information about neuroscience.

Section IV: Program and Student Assessment

Program Assessment

The overall goal of this program is to produce neuroscience PhD graduates who will be successful in research and academic settings post-graduation. Data on placement rates of students will be an important metric of success. While in the program, students will be expected to meet certain standards (as described below). Outcomes on these standards will also be used to judge program success.

Expected Standards of Performance

All students will complete a group of core neuroscience courses, as specified below, as well as a variety of specialty courses in their focus area. In addition to coursework, students are also required to engage in applied learning experiences and to produce finished products illustrating their understanding and capability to apply key concepts and skills. These experiences must include involvement in research above and beyond the required Second Year Project and Dissertation project. Students must also complete a series of Professional Milestones, including presenting research at a professional meeting, writing and submitting a grant, and publishing a paper

Students entering with a baccalaureate degree are expected to complete a Second Year Project within 2 years and the Ph.D. within 5 years. Students entering with a master's degree are expected to complete the requirements for the Ph.D. within 4 years. These students would be expected to take the required courses and electives in the PhD program or have equivalent courses in their MS program. Neuroscience faculty will evaluate the student's MS program to determine which courses will be required to complete the PhD.

All students are required to pass a comprehensive exam before advancement to candidacy for the Ph.D. degree. Students entering with a baccalaureate must pass the comprehensive exam prior to the beginning of their fourth academic year in the program. Students entering with a master's degree must complete the comprehensive exam prior to the beginning of their second academic year in the program.

Section V: Finance

Department Budget

No additional funding is being requested for this program. Current budget figures below are for the Psychology Department only as this is where the program will be housed.

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget – Prior to New Program Implementation	Departmental Budget					
		Year 1		Year 2		Year 3	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
Personnel Expense							
Salaries and Wages	$2,022,789						
Benefits	$869,799						
Total Personnel Expense	$2,892,588	$0	$	$0	$	$0	$
Non-Personnel Expense							
Travel							
Capital							
Library							
Operating	$72,982						
Total Non-Personnel Expense	$72,982						
Total Expense *(Personnel + Current)*	$2,965,570	$0	$	$0	$	$0	$
Departmental Funding							
Appropriated Fund	$2,965,570						
Other:							
Special Legislative Appropriation	0						
Grants and Contracts	$3,232,407						
Special Fees / Differential Tuition							
Total Revenue	$4,076,805	$	$	$	$	$	$
Difference							
Revenue-Expense	$3,232407	$	$	$	$	$	$
Departmental Instructional Cost / Student Credit Hour* *(as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")*	$228	$	$	$	$	$	$

** Projected Instructional Cost/Student Credit Hour data contained in this chart are to be used in the Third-Year Follow-Up Report and Cyclical Reviews required by R411.*

Funding Sources

The Neuroscience PhD program will utilize existing faculty and courses at USU. No additional funding is required for this program.

Reallocation

No reallocation of funds will be needed to support this program.

Impact on Existing Budgets

Budgets in other programs will not be impacted. Many of the classes taught in this program are already being offered in existing programs and there is capacity for additional students. Although faculty engaged in the neuroscience program may have additional advisees, this load will be spread out over multiple faculty members with little or no implications for budgets. Several additional courses will be added for this program but these courses will be incorporated into teaching loads of existing faculty.

Section VI: Program Curriculum

All Program Courses (with New Courses in Bold)

Note that a variety of elective courses across departments are listed. These are examples of courses that could be taken. It is not expected that a large number of students will take any one of these listed classes.

Course Prefix and Number	Title	Credit Hours
Required Courses	BIOL 6100: Cellular and Molecular Neurobiology or *PSY 7810: Fundamentals of Neuroscience I	3
	*PSY 7810: Fundamentals of Neuroscience II	3
	COMD 7820/PSY 7810: Cognitive Neuroscience	3
	*PSY 7810: Mechanisms of Neuropsychiatric Diseases	3
	PSYC 7090: Program Seminar	8: 1 per semester
	PSY / EDUC 6570: Introduction to Educational and Psychological Research or STAT5200: Design of Experiments	3
	PSY / EDUC 6600: Research Design and Analysis 1 or STAT 5710: Intro to Probability	3
	PSY / EDUC 7610: Measurement, Design and Analysis 2 or STAT 5720: Intro to Mathematical Statistics	3
	USU 6900: Research Integrity	2
	PSY 7970/FCHD 7970/PEP 7970/BIOL 7970 (or other 7970): Dissertation	12
	Sub-Total	43
Elective Courses		
(9 credits from the following)	PSY 7900/COMD 6900/PEP 7900/: Independent Study	Var
	PSY 7910/COMD 7910/PEP 7910/FCHD 7060/ BIOL 6910: Independent/Advanced Research	Var
	*PSY 7810: Methods in Neuroscience	3
	BIOL 5210: Cell Biology	3

Course Prefix and Number	Title	Credit Hours
	FCHD 7033: Research Methods 3: Dydadic and Longitudinal Data Analysis	3
	PSY 7670: Literature Reviews in Education and Psychology	3
	PSY 7700/PEP 7070: Grant Writing	
	PSY 7780: Multivariate Statistical Analysis I	3
	PSY 7790: Multivariate Statistical Analysis II	3
	STAT 5100: Linear Regression	3
	STAT 6100: Advanced Regression	3
	Sub-Total	9
Focus area options		
Translational Neuroscience		
(12 credits from the following)	PSY 7100: Biological Basis of Behavior	3
	COMD 7420: Electrophysiology	3
	*PSY 7810: Neuropsychopharmacology	3
	*PSY 7810: Neuroeconomics	3
	PSY 7820: Neuropsychology: Principles and Assessment	3
	*SPED 7820: Research Instrumentation in Neuroimaging	3
	PSY 6650: Theories of Learning	3
	*PSY 7810: Behavioral Pharmacology	3
Educational Neuroscience		3
(12 credits from the following)	PSY 6530: Developmental Psychology	3
	FCHD 7520: Development in Childhood	3
	PSY 6650: Theories of Learning	3
	PSY 6600: Cognition and Instruction	3
	PSY 7110: Advanced Theories of Cognitive Psychology	3
	PSY 7820: Neuropsychology: Principles and Assessment	3
	*SPED 7820: Multidisciplinary Seminar on Language and Literacy	3
	*SPED 7820: Research Instrumentation in Neuroimaging	3
Lifespan Neuroscience		
(12 credits from the following)	FCHD 7920: Aging Mind – Aging Brain	
	PSY 7270: Lifespan Psychopathology	3
	PSY 7820: Neuropsychology: Principles and Assessment	3
	COMD 6130: Neural Bases of Cognition and Motor Speech Disorders	3
	COMD 6120: Adult Language Disorders	3

Course Prefix and Number	Title	Credit Hours
	COMD 6140: Dysphagia	3
	PEP 6850: Neural Aspects of Rehabilitation I and II	3
	PEP 6860: Motor Development	3
	PEP 6840: Fundamentals of Motor Behavior	3
	*PEP 7870: Advanced Motor Behavior Seminar	3
	*PEP 7820: Variability and Dynamical Systems	3
	Sub-Total	12
	Total Number of Credits	64

* All PSY classes numbered as 7810 are currently being taught with the exception of the one class in bold.

Example Program Schedule

Year 1

Fall Semester – 7 credits

Cellular and Molecular Neurobiology or Fundamentals of Neuroscience I – 3

PSY / EDUC 6570 Introduction to Educational and Psychological Research – 3
Or
STAT 5200 Design of Experiments – 3

Neuroscience Program Seminar – 1

Lab Rotation #1

Spring Semester – 7 credits

Fundamentals of Neuroscience II – 3

PSY / EDUC 6600: Research Design and Analysis 1 – 3
Or
STAT 5710: Introduction to probability – 3

Neuroscience Program Seminar - 1

Lab Rotation #1

Year 2

Fall Semester – 7 credits

Cognitive Neuroscience – 3

PSY / EDUC 7610 Research Design and Analysis 2 – 3
Or
STAT 5100 Linear Regression - 3

Neuroscience Program Seminar

Lab Rotation #2

Spring Semester – 6 credits

Mechanisms of Neuropsychiatric Diseases – 3

General Elective – 2

Neuroscience Program Seminar – 1

Lab Rotation #2

Year 3

Fall Semester – 6 credits

Research Integrity – 2

Emphasis Area Advanced Elective - 3

Neuroscience Program Seminar – 1

Spring Semester – 7 credits

General Elective – 3

Emphasis Area Advanced Elective – 3

Neuroscience Program Seminar - 1

Year 4

Fall Semester – 6 credits

General Elective – 2

Emphasis Area Advanced Elective – 3

Neuroscience Program Seminar – 1

Spring Semester – 6 credits

Emphasis Area Advanced Elective - 3

General Elective – 2

Neuroscience Program Seminar – 1

Year 5

Fall Semester – 6 credits

Dissertation

Spring Semester – 6 credits

Dissertation

Section VII: Faculty

Psychology

Tim Shahan, PhD – Dr. Shahan's research focuses on fundamental behavioral processes with an emphasis on quantitative theoretical models of conditioning, learning, and behavioral regulation. His research examines how processing of information about rewards and reward-related cues contributes to decision-making, attention, and the persistence goal-directed behavior. Translation of insights from this basic research to problems of human health (e.g., drug addiction, developmental disabilities, mental illness) is a core feature of Dr. Shahan's research program.

Catalin Buhusi, PhD – Dr. Catalin Buhusi uses rodent models to manipulate, visualize, and examine the involvement of the dopaminergic system in normal and abnormal behavior. Current work includes behavioral studies, pharmacological manipulations, and multiple electrode recordings in behaving mice and rats. Computational models are used to integrate the growing body of data relative to the role of the dopamine system in learning, memory, and attention. Research is relevant to psychopathology ranging from Intellectual Disabilities, to Schizophrenia, Parkinson's Disease, and Huntington's Disease.

Mona Buhusi, PhD – Dr. Mona Buhusi's research aims at (a) understanding how neuronal connectivity relates to normal and abnormal behavior and neuropsychopathology (from neurodevelopmental disorders such as autism and schizophrenia to age-related cognitive and motor deficits), (b) identifying molecules and mechanisms involved in the formation of specific neuronal circuits, and (c) identifying mechanisms of synapse formation, plasticity or maintenance.

JoAnn Tschanz, PhD – Dr. Tschanz's research interests involve the study of severe cognitive deficits in the elderly. For the past 12 years, she has examined genetic and environmental factors that appear to influence the risk of developing severe cognitive impairments such as dementia of the Alzheimer's type. Recently, Dr. Tschanz has studied diverse topics of aging such as the cognitive correlates of late-life depression, the influence of cardiovascular and cerebrovascular disease on memory and other cognitive abilities, the role of various medications in reducing the risk for Alzheimer's disease, neuroimaging correlates of cognitive impairment, behavioral disturbances in dementia, and the influence of family history of Alzheimer's disease and other genetic factors on an individual's cognitive performance.

Kerry Jordan, PhD – Dr. Jordan directs the Multisensory Cognition Lab. Using various behavioral paradigms and a mobile EEG setup, research in the lab melds cognitive neuroscience, developmental psychology, and education approaches to investigate the brain's representation of number through multiple senses (e.g., vision, audition) in both adults and children. Dr. Jordan researches both what typically developing children know about mathematics behaviorally and also how they process this information in the brain. By mapping early neural processing of mathematics in children, Dr. Jordan and her collaborators ultimately aim to help identify atypical learners who may benefit from early intervention.

Communication Disorders And Deaf Education

Ron Gillam, PhD – Dr. Gillam directs the Language, Education, and Auditory Processing (LEAP) Brain Imaging Lab in the Emma Eccles Jones Early Childhood Education and Research Center. He conducts research on neural processing in children with developmental language disorders, autism, phonological disorders, and academic disorders. His research team uses functional Near Infrared Spectroscopy (NIRS) to assess the extent and variability of neural processing as children engage in information processing, language comprehension, and language production tasks.

Lisa Milman, PhD – Dr. Milman conducts translational research in the area of adult language neuro-rehabilitation. Her research explores how basic theories and discoveries from the fields of neuroscience, psychology, and linguistics can be used to develop innovative assessment and interventions that improve communication and quality of life for individuals affected by aphasia and other neurogenic communication disorders.

Sandra Laing Gillam, PhD – Dr. Laing Gillam conducts research on neural processing in children and adults with neurodevelopmental, speech and language, and phonological processing disorders. She specializes in the development and analysis of tasks that compare the behavioral and neuroimaging data obtained from Near Infrared Spectroscopy (NIRS).

Stephanie Borrie, PhD – Dr. Borrie is the director of the Human Interaction Lab. In this lab she explores how speech disorders arising from neurological origins (e.g., dysarthria) interfere with the mechanisms that underpin speech production, perception, and interpersonal coordination. Her work emphasizes the role of rhythm in communication, and draws from a breadth of disciplines including speech science, neuroscience, cognitive science, psychology, sociolinguistics, and tools from the field of engineering.

Kim Corbin-Lewis, PhD – Dr. Corbin-Lewis specializes in the applied science of dysphagia (swallowing disorders) diagnosis and management using a physiology-based model. She focuses on quantitative and qualitative methods of fluoroscopic imaging interpretation of swallow with the goal of

improving clinical decision-making. She teaches undergraduate and graduate courses in speech science, dysphagia, and disorders of voice.

Health, Physical Education and Recreation (Pathokinesiology Specialization)

Eadric Bressel, PhD – Dr. Bressel's research examines neuromechanical adaptations to therapeutic exercise in healthy and special populations. He has specific interest spine stabilization exercises, determinants of balance, and rehabilitation of chronic conditions such as osteoarthritis using an aquatic environment.

Breanna Studenka, PhD – Dr. Studenka specializes in pathokinesiology. She conducts research on how humans plan for and control movements that occur in sequence, including rhythmic timing, planning of grasping for object manipulation and joint-action, and continuous sensory-motor coupling. Her current research includes movement timing related to visual control and stuttering, the role of social/contextual factors on characteristics of movement variability, and potential therapeutic interventions for persons with movement disorders specifically related to control of sequential, timed movement (Parkinson's Disease).

Sydney Schaefer, PhD – Dr. Schaefer's research focuses on how the human nervous system learns and executes motor skills, and relearns existing ones during motor recovery following neural damage. Dr. Schaefer and her team use noninvasive, behavioral techniques to study the control and learning of functional upper extremity movements, such as reaching, grasping, and object manipulation, as well as balance and posture. Findings from this research provide much-needed evidence for neurorehabilitation in geriatric populations with a number of movement disorders

Family Consumer and Human Development

Beth Fauth, PhD – Dr. Fauth conducts research on Alzheimer's disease and other dementias; stress processes for caregivers of older adults; and the physical, cognitive, and psychosocial components of late life disability. She teaches undergraduate and graduate courses in aging, including the cognitive and neural changes associated with normative and non-normative aging (e.g. dementia and mild cognitive impairment).

Maria Norton, PhD – Dr. Norton's research program focuses on geriatric mental health and the psychosocial factors that affect risk for depression and dementia in late-life, including lifestyle choices, stressful life events, social support networks, personality, religiosity, and the extent to which these factors might alter genetic influences. Her current work examines psychosocial stressors across the entire lifespan (e.g. family member deaths, poverty, divorce, teen or unwed pregnancy, widowhood, premature offspring birth) and their association with late-life cognitive health, and the moderating effects of depression and genes. Dr. Norton is also engaged in the development and testing of evidence-based lifestyle behavioral interventions with a multi-disciplinary team (health educator, neuropsychologist, sports educator, nutritionist, therapist, human developmentalist, and gerontologist) to encourage and support middle-aged persons in making and sustaining healthy lifestyle changes towards the goal of lowering risk for Alzheimer's disease.

Biology

Tim Gilbertson, PhD – The main goal of Dr. Gilbertson's research is to understand how information is processed by the nervous system. To accomplish this broad objective, he has focused on investigating the processing of taste stimuli by the peripheral gustatory system. He investigates the mechanisms the body uses to recognize nutrients and how this process is regulated by nutritional need. Current research focuses on the way nutrients, including fats, carbohydrates, and minerals are detected by chemosensory cells in the oral cavity and in several nutrient-sensitive, post-ingestive organs. The research in his laboratory spans from genes through behavior with expertise in molecular biology, proteomics, electrophysiology, imaging, biochemistry, and analysis of behavior.

Brett Adams, PhD – Dr. Adams' research concerns the molecular underpinnings of cell signaling processes. Currently, his laboratory investigates signaling by two small GTPases, Dexras1 and Rhes.

Biological Engineering

Anhong Zhou, PhD – Dr. Zhou is the principal investigator of the Molecular and Cellular Sensing and Imaging Research Laboratory (MCSIRL) in the Department of Biological Engineering. Laboratory research is mainly focused on the integration of state-of-the-art instrumentation methods and new chemo/bio-sensing technologies for biomolecular surface engineering applications.

Mathematics and Statistics

Guifang Fu, PhD – Dr. Fu conducts research on statistical genetics, statistical shape analysis, statistical neural analysis, functional data analysis, and high-dimensional big data modeling. She develops advanced statistical models to analyze data with different background applications such as whole genome association studies, morphological data, Near Infrared Spectroscopy data, and EEG data.

Cover/Signature Page - Abbreviated Template/Abbreviated Template with Curriculum

Institution Submitting Request: Utah State University
Proposed Title: NA (request is for removal of previously established program)
Currently Approved Title: Master of Arts (MA) degree in Sociology (request to remove)
School or Division or Location: Sociology Graduate Program
Department(s) or Area(s) Location: Department of Sociology, Social Work and Anthropology
Recommended Classification of Instructional Programs (CIP) Code[1] (for new programs): NA
Current Classification of Instructional Programs (CIP) Code (for existing programs): 45.1101
Proposed Beginning Date (for new programs): 07/01/2015
Institutional Board of Trustees' Approval Date:

Proposal Type (check all that apply):

Regents' General Consent Calendar Items		
R401-5 OCHE Review and Recommendation; Approval on General Consent Calendar		
SECTION NO.		ITEM
5.1.1	☐	Minor*
5.1.2	☐	Emphasis*
5.2.1	☐	(CER P) Certificate of Proficiency*
5.2.3	☐	(GCR) Graduate Certificate*
5.4.1	☐	New Administrative Unit
	☐	Administrative Unit Transfer
	☐	Administrative Unit Restructure
	☐	Administrative Unit Consolidation
5.4.2	☐	Conditional Three-Year Approval for New Centers, Institutes, or Bureaus
5.4.3	☐	New Center
	☐	New Institute
	☐	New Bureau
5.5.1	☐	Out-of-Service Area Delivery of Programs
5.5.2	☐	Program Transfer
	☐	Program Restructure
	☐	Program Consolidation
5.5.3	☐	Name Change of Existing Programs
5.5.4	XX	Program Discontinuation
	☐	Program Suspension
5.5.5	☐	Reinstatement of Previously Suspended Program
	☐	Reinstatement of Previously Suspended Administrative Unit

**Requires "Section V: Program Curriculum" of Abbreviated Template*

Chief Academic Officer (or Designee) Signature:
I certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

_____
Signature Date:
Printed Name: Laurens H. Smith, Jr., Executive Senior Vice Provost

[1] CIP codes must be recommended by the submitting institution. For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

Program Request - Abbreviated Template
Utah State University
Master of Arts (MA) Degree in Sociology
12/29/2014

Section I: Request

The Sociology Graduate Program at Utah State University requests removal/discontinuation of the Master of Arts (MA) degree in Sociology. Although the MA degree has remained among the list of approved degrees at USU, we have not awarded that degree for many years and have determined that going forward we will not admit students to this degree program. Rather, we have been and will continue to utilize the existing Master of Science (MS) degree program for students entering graduate study in Sociology at that level. This requested change will not have any effect on our existing curriculum or on instructional activities.

Section II: Need

The MA degree has not been used by the Sociology program for many years, and having it remain "on the books" creates potential confusion for graduate program applicants. The Sociology graduate program is heavily focused on research and data analysis skills, which makes the MS degree far more appropriate for our students than the MA degree.

Section III: Institutional Impact

This requested removal of the MA degree option will have no effect on enrollments, in the Sociology program or in any affiliated programs, since that degree option has not been utilized for many years. It will also not have any effects on existing administrative structures, on faculty/staff requirements, or on facilities.

Section IV: Finances

The proposed change will not have any budgetary consequences.

Section V: Program Curriculum

All Program Courses (with New Courses in Bold)

No curricular changes will result from the proposed removal of the MA degree n Sociology at USU.

Course Prefix and Number	Title	Credit Hours
Required Courses		
	Sub-Total	
Elective Courses		
	Sub-Total	
Track/Options (if applicable)		
	Sub-Total	
	Total Number of Credits	

Program Schedule

NA