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| Office of the Registrar  Dept. 3964; 1000 East University Ave. • Laramie, WY 82071-3964  (307) 766-5272 • fax (307) 766-3960 • e-mail: registrar@uwyo.edu • www.uwyo.edu |

**University Course Review Committee**

**Minutes**

**Meeting # 290**

**Nov. 15th, 2017 meeting**

* SOC 4050 – amendment to change start of course descript, approved then
* REWM/ECOL – noted that is to be variable credit & still needs a number, approved
* COJO 3195 – strike consent, approved
* PETE 5350 – add grad standing, approved
* ENR 4975/5975 – need syllabi to confirm differences between UG & GR, approved pending
* PHCY 5041 – strike permission of instructor, approved

## Part I – Course Modifications (Consent Agenda)

* **College of Agriculture**

**AGEC 4880**

**Intl. Ag Trade, Mkts, & Policy,.**

***Current Course Description:*** International agricultural commodity markets, product markets and market channels are characterized and examined. Presents economic theory relevant to description and analysis of international markets. Characterizes and analyzes historical and contemporary U.S. commercial trade policy and agricultural policy and their effect on markets.

***Current Prerequisites:*** AGEC 1010 and 1020 or equivalent and ECON 3020 or consent of instructor.

***Proposed Prerequisites:*** ECON 3020 and Junior or Senior Standing

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** This proposal is focused on the enforcement of prerequisites for AGEC 4880. Currently, the prerequisites are published in the Course Catalog, but not enforced. Students need to have mastery of ECON 3020 to complete AGEC 4880 successfully. This is a course that should be taken one's junior or, preferably, senior year. International trade models are built upon and advance concepts taught in ECON 3020.

**AGEC 4965**

**Agribusiness Entrepreneurship,**

***Current Prerequisites:*** senior standing, 15 hours of AGEC and/or ECON and WB/COM2 writing course

***Proposed prerequisites:*** senior standing, WB/COM2 writing course and AGEC 2020, or AGEC 4500, or AGEC 4060, or FIN 3250

***USP:*** xxx

***Enforce in Banner:*** Yes

***Proposed Term:*** xxx

***Rationale:*** The course is a senior capstone course. Although the current Course Catalog entry calls for a senior standing, 15 hours of AGEC and/or ECON and WB/COM2 writing course; these prerequisites are not enforced by the registrar. They need to be enforced. Further, students specifically need to have more specific AGEC courses before they enroll in their senior seminar. These include AGEC 4050, Agribusiness Marketing; AGEC 4060, Agribusiness Management; and 4500, Agricultural Finance. These courses all include critical concepts for the development of a new venture business plan.

**MOLB 3610**

**PRINCIPLES OF BIOCHEMISTRY, 4 hrs**

***Course Description:*** One-semester biochemistry course for life-, health- and physical-science students. Introduces a full range of biochemical concepts including discussion of major macromolecules, metabolism and molecular biology. Credit cannot be earned in MOLB 3610 and MOLB 4600 or MOLB 4610. (Normally offered fall and summer semesters).

***Proposed Course Description:*** One-semester biochemistry course for life-, health- and physical-science students. Introduces a full range of biochemical concepts including discussion of major macromolecules, metabolism and molecular biology. (Normally offered fall and some summer semesters).

***Prerequisites:*** LIFE 1010 and a grade of C or better in CHEM 2300 or 2420.

***Proposed Prerequisites:*** LIFE 1010 and a minimum grade of C- in CHEM 2300 or CHEM 2420.

***Enforce in Banner:*** Yes

***Proposed Term:*** Summer 2018

***Rationale:*** The only changes for this course are that (1) we are updating the minimum grade requirement of "C" to a "C-" because of the change in grading scales at UW, and (2) that we will allow a student to receive credit in this 1-semester biochemistry survey course MOLB 3610 Principles of Biochemistry as well as receiving credit in MOLB 4600 and 4610. The depth and coverage of topics are now vastly different between this one-semester MOLB 3610 and the two-semester biochemistry sequence of MOLB 4600 and 4610. Separate CARFs and syllabi are being submitted concurrently for MOLB 4600 and 4610, to cover biochemistry in 2 semesters at an intense level instead of the previous 3-semester sequence of MOLB 4600, 4610 and 4615, the latter course of which has been discontinued).

**MOLB 4100**

**CLINICAL BIOCHEMISTRY, 3hrs**

***Course Description:*** An integrated discussion of biochemical, molecular, and physiological principles underlying human medical disorders and the biochemical and molecular genetic tests used in prevention, diagnosis and treatment. (Normally offered spring semester)

***Prerequisites:*** MOLB 3610 or 4600

***Proposed Prerequisites:*** Minimum grade of C- in MOLB 3610 or 4600; course in physiology recommended (e.g. ZOO 3115)

***Enforce in Banner:*** Yes

***Proposed Term:*** as

***Rationale:*** We propose to require a C- in either of the prerequisite courses MOLB 4600 or 3610 and to add a recommendation for taking a physiology course (e.g. ZOO 3115) prior to enrolling for this course.

**MOLB 4320**

**INVESTIGATIONS IN MOLEC BIOL, 4 hrs**

***Course Description:*** Research project of the type experienced by graduate students or research associates in academic or commercial settings. Student performance, engagement and understanding will be assessed through written assignments (literature reviews, lab reports), digital communication (electronic research notebook, data presentation) and oral communications (literature presentation, research effort report). (Normally offered spring semester).

***Prerequisites:*** grade of C or better in MOLB 3610 or MOLB 4610

***Proposed Prerequisites:*** Minimum grade of C- in MOLB 3610 or MOLB 4600

***Enforce in Banner:*** Yes

***Proposed Term:*** Spring 2019

***Rationale:*** Course title: Investigations in Molecular Biology. We propose to change the prerequisites for MOLB 4320 to be consistent with (1) the changes in the MOLB biochemistry sequence from three courses (MOLB 4600 and 4610 and 4615) to two courses (MOLB 4600 and 4610), and (2) the change to the +/- grading option at UW. Thus we propose to require a C- in MOLB 4600, which is the first course of the two-semester biochemistry sequence. Other relevant MOLB course CARFs are being submitted concurrently.

**MOLB 4400/5400 PATB 4400**

**IMMUNOLOGY, 4 hrs**

***Course Description:*** Biology of immune system; cellular and molecular mechanisms; host resistance to infectious agents; as well as hypersensitivities, autoimmunity, tumor and tissue rejection. Includes laboratory for immunological techniques. (Normally offered fall semester).

***Prerequisites:*** PATB 2220

***Proposed Prerequisites:*** MOLB/MICR 2021 or 2240 or PATB 2220, and a minimum grade of C- in MOLB 3000 or MOLB 3610

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** MOLB 4400 has been a challenging course for many students, as understanding immunological principles relies on knowledge from many disciplines in order to understand the complexities. We propose to change the prerequisites for MOLB 4400 so that students with a background in microbiology, molecular biology and basic biochemistry will have a better chance to grasp the concepts covered in this course. Dr. Gerry Andrews (Vet Sci, PATB, MICR) discussed the change with the MICR program and they approved the change. Dr. Will Lagreid has also approved the change for PATB 4400 (see signature).

**MOLB 4460/5460**

**MICROBIAL PHYS AND METAB, 3 hrs**

***Course Description:*** Studies life processes of microbes as mediated by their structures acting in consort, in response to changing environments. (Normally offered fall semester).

***Prerequisites:*** MOLB 2021 or MOLB 2240 or MICR 2021 or MICR 2240, and MOLB 3610 or MOLB 4610.

***Proposed Prerequisites:*** Minimum grade of C- in MOLB/MICR 2021 or 2240 and MOLB 3610 or 4610

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** The course title is "Microbial Physiology and Metabolism." We propose to change the prerequisites for MOLB 4460 by adding a minimum grade of C- in all prerequisites for the course.

**MOLB 4485/5485**

**COMPUTERS IN BIOLOGY, 1 hr**

***Course Description:*** Prepares students to use existing internet resources as research tools in biology without the need to write or install software. Topics include literature searching, multiple sequence alignment and phylogenetic tree construction, primer design, protein homology modeling, and the use of model organism databases. (Normally offered fall semester).

***Proposed Course Description:*** Lectures and hands-on computational exercises in bioinformatics that prepare students to use a range of graphical and command-line tools to analyze genetic data efficiently at various scales. Exercises in several subdisciplines of bioinformatics are implemented in Linux on local workstations or remote servers. (Normally offered fall semester).

***Prerequisites:*** MOLB 3000, 3610 or 4610, or LIFE 3600

***Proposed Prerequisites:*** Minimum grade of C- in MOLB 3000 or LIFE 3050.

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** MOLB 4485 Computer in Biology has been significantly updated to a more computationally intensive lab pod in Bioinformatics that is required for all majors in Molecular Biology. The new syllabus submitted with this CARF illustrates the material covered as well as detailing the grading scheme for MOLB 4485 and the dual-listed MOLB 5485 for graduate students. To support the achievement of undergraduates in MOLB 4485 we propose to require a minimum grade of C- in MOLB 3000 or LIFE 3050, as either of these courses would provide sufficient background in molecular genetics for being successful in this class. In this revised form of the course, the previous prerequisites of MOLB 3610 or LIFE 3600 do not provide sufficient molecular genetics background for this course, so we are dropping these prerequisites. MOLB 4610 has been revised is not needed before taking this course.

**MOLB 4600/5600**

**BIOCHEMISTRY 1: BIOMOLECULES 3 hrs**

***Proposed Title:*** Biochemistry 1: Bioener&Metab

***Course Description:*** Discussion of the structure and function of major biomolecules, including proteins, carbohydrates, nucleic acids and lipids, will provide the foundation for understanding biochemical, molecular and cellular processes. (Normally offered spring semester).

***Proposed Course Description:*** Structure and function of major biomolecules, energy transduction, and central biochemical processes are discussed with an emphasis on regulatory controls in metabolism and cellular processes. (Normally offered fall semester).

***Prerequisites:*** For 4600: Grade of C or better in both MOLB 3000 and CHEM 2420 or 2300.

For 5600: consent of instructor

***Proposed Prerequisites:*** MOLB 4600: Minimum grade of C- in CHEM 2300 or CHEM 2420 and MOLB 3000 or MOLB 3610.

MOLB 5600: Consent of instructor.

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** Course title: Biochemistry 1: Bioenergetics and Metabolism. The core biochemistry sequence was delivered in 2-semesters for decades at UW. Because of increased content in this field and to provide students with more background, we offered biochemistry as a 3-semester sequence for 3 years. There were 3 main problems: (i) the initial course of the 3-semester sequence was not challenging enough for MOLB majors; (ii) transfer students from community colleges were disadvantaged because they were not able to take the first semester of the sequence before coming to UW while UW students took the course in their sophomore year; and (iii) non-MOLB majors did not have space in their curriculum to take all 3 courses and were thus not exposed to many essential concepts in gene expression covered in the third course of the sequence. Because the biochemistry sequence must cover main topics in biochemistry for MOLB majors as well as those students majoring in physiology, nutrition, dietetics, microbiology, veterinary sciences and pre-medical students across campus, we propose to offer biochemistry as a 2-semester sequence of MOLB 4600/4610 by revising the curriculum. For convenience across campus, we would like to retain the numbers of MOLB 4600 and 4610, as other departments never changed from these numbers listed as electives for their programs. MOLB 3610 Principles of Biochemistry will be retained as a course for students who wish to take a 1-semester survey biochemistry course. Because the depth and topic coverage are vastly different between the 1-semester MOLB 3610 and the 2-semester biochemistry sequence of MOLB 4600/4610, students will be allowed to use MOLB 3610 as a prerequisite for MOLB 4600 or 4610 and may receive credit for MOLB 3610, MOLB 4600 and MOLB 4610. MOLB 5600 will retain "consent of instructor" as a prerequisite because grad students without the proper background have been unsuccessful in this course in the past.

**MOLB 4610/5610**

**BIOCHEMISTRY 2: BIOENER&METAB, 3 hrs**

***Proposed Title:*** Biochem2: Molecular Mechanisms

***Course Description:*** Energy transduction and the central biochemical processes are discussed with an emphasis on regulatory controls and integration in metabolism. (Normally offered fall semester)

***Proposed Course Description:*** Biochemical and molecular mechanisms underlying cell function, including gene expression and epigenetic regulation, RNA and protein modification and function, assembly of macromolecular complexes, signaling and regulation of the cell cycle, are discussed. (Normally offered spring semester).

***Prerequisites: MOLB 4610:*** Minimum grade of C- in MOLB 3610 or MOLB 4600.

MOLB 5610: Consent of instructor.

***Proposed Prerequisites:*** MOLB 4610: Minimum grade of C- in MOLB 3610 or MOLB 4600.

MOLB 5610: Consent of instructor***.***

***Enforce in Banner:***  Yes

***Proposed Term:*** Spring 2018

***Rationale:*** Course title: Biochemistry 2: Molecular Mechanisms. The core biochemistry sequence was delivered in 2-semesters for decades at UW. Because of increased content in this field and to provide students with more background, we offered biochemistry as a 3-semester sequence for 3 years. There were 3 main problems: (i) the initial course of the 3-semester sequence was not challenging enough for MOLB majors; (ii) transfer students from community colleges were disadvantaged because they were not able to take the first semester of the sequence before coming to UW while UW students took the course in their sophomore year; and (iii) non-MOLB majors did not have space in their curriculum to take all 3 courses and were thus not exposed to many essential concepts in gene expression covered in the third course of the sequence. Because the biochemistry sequence must cover main topics in biochemistry for MOLB majors as well as those students majoring in physiology, nutrition, dietetics, microbiology, veterinary sciences and pre-medical students across campus, we propose to offer biochemistry as a 2-semester sequence of MOLB 4600/4610 by revising the curriculum. For convenience across campus, we would like to retain the numbers of MOLB 4600 and 4610, as other departments never changed from these numbers listed as electives for their programs. MOLB 3610 Principles of Biochemistry will be retained as a course for students who wish to take a 1-semester survey biochemistry course. Because the depth and topic coverage are vastly different between the 1-semester MOLB 3610 and the 2-semester biochemistry sequence of MOLB 4600/4610, students will be allowed to use MOLB 3610 as a prerequisite for MOLB 4600 or 4610 and may receive credit for MOLB 3610, MOLB 4600 and MOLB 4610. MOLB 5600 will retain "consent of instructor" as a prerequisite because grad students enrolling without the proper background have been unsuccessful in this course in the past.

**MOLB 4670/5670**

**ADV MOL CELL BIOLOGY, 3 hrs**

***Course Description:*** Key concepts in eukaryotic cell biology will be presented with a focus on cellular processes that form the basis for human diseases. Cellular organization, dynamics, and signaling will be emphasized. Students will also explore principles of research design by critical reading and discussion of scientific literature. (Normally offered fall semester).

***Prerequisites:*** MOLB 3000 or 3610 or 4610

***Proposed Prerequisites:*** MOLB 3000 and MOLB 3610 or MOLB 4600

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** Title of the course: Advanced Molecular Cell Biology. Because of the proposed change in the Biochemistry sequence from 3 courses to a 2-course sequence, the prerequisite for this course should now be MOLB 3000 and 4600 or 3610. MOLB 4670 is a demanding upper-level course and requires that a student has a solid background in both introductory molecular biology and gene expression (content of MOLB 3000) and biochemistry and metabolism (content of the new MOLB 4600). MOLB 3610 covers both of these aspects of molecular biology and biochemistry, albeit at a less advanced level. However, students that master the concepts delivered in MOLB 3610 can be successful in MOLB 4670.

* **College of Arts & Sciences**

**PHYS 4840**

**MATH & COMP PHYSICS II, 3 hrs.**

***Proposed Hours:*** 4 hrs.

***Course Description:*** Second semester of a two-semester course. Provides a comprehensive overview of computational physics and provides numerous numerical techniques applied to physics problems. Topics include: numerical computations and visualizations, numerical solutions of ordinary differential equations, linear systems, curve fitting, discrete Fourier transforms, partial differential equations, integration,

***Proposed Course Description:*** Second semester of a two-semester course. Provides a comprehensive overview of computational physics and provides numerous numerical techniques applied to physics problems. Topics include: numerical computations and visualizations, numerical solutions of ordinary differential equations, linear systems, curve fitting, discrete Fourier transforms, partial differential equations, integration, and Monte Carlo simulations of general stochastic systems. A weekly lab session will be held

***Prerequisites:*** PHYS 2320, MATH 2210, COSC 1010

***Proposed Term:***

***Rationale:*** This course has evolved into a combined lecture plus laboratory course. Making this a four credit course would put this in line with our other lecture/lab courses, both in terms of format and expected student/faculty commitment. We will add a fourth class meeting per week to address the new emphasis on the lab component. Note that the form has restricted the number of characters in the current course description section and that is why it looks truncated.

**SOC 4050**

**SOCIAL INEQUALITY, 3 hrs.**

**Proposed Course Number:** SOC 3050

***Course Description:*** ~~In Sociology 4050, we will focus~~ Focuses on the structure and consequences of unequal access to political, economic and social benefits in U.S. society and the world. This course critically examines institutional arrangements that perpetuate and are supported by inequality and stratification, as well as patterns of social mobility.

***Prerequisites:*** SOC 1000

***Proposed term:*** Fall 2018

***Rationale:*** Previously, this course was dual-listed and we found that there was too much of a schism between the graduate and undergraduate students. This led us to un-dual-list the course. Now we would like to move this course to a more appropriate level. The course will now provide a broader survey of social inequality, which will make it more appealing to non-majors, including students of social work, psychology, etc. There are lots of textbooks written for the 3XXX-level, which will help make the course more attractive to both majors and non-majors. Last, Sociology typically caps our 3XXX-level classes at 45-50 students (4XXX are capped at ~30), which opens up the number of seats available for non-majors.

* **College of Business**

**ECON 3400**

**ENVIRONMENT AND NATURAL RESOUR, 3 hrs.**

***Course Description:*** Introduction to economics of environment, emphasis on examining environmental management and policy from economic perspective. Explores general resource and environmental issues: energy, water, agricultural, biodiversity, fisheries and pollution, and sustainable development.

***Proposed Course Description:*** Key problems of environmental degradation and natural resource scarcity are identified. Main underlying causes of misuse and overuse are explained from an economics perspective. Policy options for improved management are presented. These economic concepts and tools are then applied to current real world environment and natural resource issues.

***Prerequisites:*** ECON 1020

***Proposed Prerequisites:*** Any one of these courses - ECON 1000, ECON 1010, ECON 1020, ECON 1200, ECON 1300, or ECON 1400

***Enforce in Banner:***  Unknown

***Proposed Term:*** Fall 2018

***Rationale:*** ECON 3400 will require students enrolling to complete any one of the following prerequisites successfully: ECON 1000, ECON 1010, ECON 1020, ECON 1200, ECON 1300 or ECON 1400.

The Registrar requested added detail regarding pre-requisite courses. The "introductory economics" courses are listed.

**MKT 3310**

**Prof and Technical Selling, 3 hrs.**

***Proposed Course Description:*** This Professional Selling class focuses on business-to-business selling. It examines Organizational Buying Behavior to develop students' understanding of customers. It also investigates the process salespeople go through when presenting solutions to customers. This course is for students from various disciplines wanting to explore sales-focused opportunities within their field of study.

***Current Prerequisites:*** xxx

***Proposed prerequisites:*** COM1

***USP:*** COM2xxx

***Enforce in Banner:*** xxx

***Proposed Term:*** xxx

***Rationale:*** As the College of Business and the Management and Marketing Department develop a concentration in Selling as well as certificate options for students across the University, several new selling classes will need to be developed in the coming semesters. This is the first class in that set of courses. This will serve as the fundamentals class that will be the foundation of additional selling coursework. This course is also undergoing USP approval process for a COM2 Designation that will allow students from other disciplines to be exposed to selling.

* ***College of Engineering and Applied Science***

**CHE 2005**

**CHEMICAL PROCESS ANALYSIS, 3 hrs.**

***Course Description:*** Introduces analysis of of chemical processes using stoichiometry, material and energy balances, thermodynamics and economics.

***Prerequisites:*** C or better in MATH 2205 and C- or better in either CHEM 1050 or CHEM 1020

***Proposed Prerequisites:*** C- or better in either CHEM 1050 or CHEM 1020 and concurrent enrollment in MATH 2205.

***Enforce in Banner:*** Yes

***Rationale:*** The mathematics prerequisites will be changed to better reflect the level of training needed to be successful in this course. This will give students more flexibility when scheduling classes and could shorten time to graduation for some students.

**CHE 2060**

**CHEMICAL PROCESS ANALYSIS, 3 hrs.**

***Proposed Course Title:*** Chemical Engineering Computing

***Course Description:*** Introduces chemical engineering problems, develops computational tools needed to solve them, and reinforces a computational tool that will be useful for other CHE classes.

***Prerequisites:*** C- or better in CHE 1005 or ES 1060; concurrent enrollment in MATH 2310.

***Proposed Prerequisites:*** C- or better in CHE 1005 or ES 1060; C-or better in CHE 2005; concurrent enrollment in MATH 2310.

***Enforce in Banner:*** Yes

***Rationale:*** The current title is a misnomer because computing is introduced in CHE 1005. Also, CHE 2060 is taught at a higher level than “Introduction to” suggests. The addition of CHE 2005 as a prerequisite adds to the sample problem material available to the CHE 2060 instructor. This prerequisite change also prevents students from taking upper division chemical engineering classes without first completing CHE 2005.

**EE 3510**

**ELECTROMECHANICS. 4 hrs.**

***Proposed Course Title:*** Elec. Machines and power Sys.

***Course Description:*** Polyphase circuits; ferromagnetic circuits and devices; single phase and polyphase transformers; basic electromechanical energy conversion; steady state characteristics and application of DC machines, AC synchronous and induction machines; fractional-horsepower AC motors. Includes laboratory.

***Proposed Course Description:*** Polyphase AC circuits; single-phase and polyphase transformers; AC synchronous and induction machines; introduction to power systems and per unit system; transmission line parameters; steady-state operations of transmission lines; power flows; transient stability; synchrophasor system and its applications.

***Other Proposals:*** Remove Lab Section.

***Proposed Term:*** Fall 2018

***Rationale:*** A lot of changes are occurring in the power industry, and it has not been possible to educate our electrical engineering students on new and modern concepts of power system grid, renewable energy sources, and electric or hybrid vehicles with the old EE 3510 course. The focus of the old EE3510 course primarily being about electric machinery does not provide any knowledge about power grid components, stability and operations. The updated course will have balanced treatment on electric machines and power systems. The proposal to modify the course has also been presented to the advisory board and received very positive feedback.

**EE 4820**

**SENIOR DESIGN I, 2 hrs.**

***Course Description:***

Students choose a senior design project and complete the pre-liminary design. This stage of senior design includes investigation of alternative solutions that meet the project’s requirements, cost analysis, and building the prototype circuit. Periodic oral and written project progress reports are required. Prerequisites: EE 2390 and corequisite courses in the area of the design project. (Offered fall semester only)

***Prerequisites:*** EE 2390 and corequisite courses in the area of the design project. (Offered fall semester only)

***Proposed Prerequisites:*** EE 2220, EE 2390, and EE 3310 or concurrent enrollment, plus 6 hours of 4000 level EE/BE classes, or concurrent enrollment.

***Enforce in Banner?*** Yes.

***Proposed Term:*** Spring 2018

***Rationale:*** To update the prerequisites to reflect a more accurately the skill set required for this course.

**ES 2310**

**THERMODYNAMICS, 3 hrs.**

***Course Description:*** Macroscopic systems involving energy and its various forms. Fundamental concepts including energy, mass and entropy balances. Pure substances and availability. Reversible and irreversible processes. Prerequisites: ES 2120 and MATH 2210.

***Prerequisites:*** ES 2120 and MATH 2210.

***Proposed Prerequisites:*** MATH 2210 and either ES 2120 or PHYS 1210

***Enforce in Banner:***  Yes

***Proposed Term:*** Spring 2018

***Rationale:*** CEAS is returning to the original pre-reqs for this course that were in place for some time. This will allow for an easier transition for transfer students and also allow students in engineering programs not requiring ES2120 Dynamics an opportunity to take this course.

**ES 2330**

**FLUID DYNAMICS, 3 hrs.**

***Course Description:*** Incompressible flow of ideal and real fluids. Potential and stream functions; similitude and dimensional analysis. Prerequisite: ES 2120 and MATH 2210.

***Prerequisites:*** MATH 2210 and ES 2120

***Proposed Prerequisites:*** MATH 2210 and either ES 2120 or PHYS 1210

***Enforce in Banner:*** Yes

***Proposed Term:*** Spring 2018

***Rationale:*** CEAS is returning to the original pre-reqs for this course that were in place for some time. This will allow for an easier transition for transfer students and also allow students in engineering programs not requiring ES2120 Dynamics an opportunity to take this course.

**ME 5434**

**COMPUTATIONAL MATERIALS SCIENCE, 3 hrs.**

***Course Description:*** Fundamentals of quantum and statistical

physics with application to modeling and simulation of engineering materials at the atomic scale. Course includes simulation of structural and mechanical properties of nanostructured materials. Prerequisite: ME 5000 or equivalent.

***Proposed Course Description:*** Fundamentals of quantum and statistical

physics with application to modeling and simulation of engineering materials at the atomic scale. Course includes simulation of structural and mechanical properties of nanostructured materials. Prerequisite: Graduate Standing

***Prerequisites:*** ME 5000 or Equivalent

***Proposed Prerequisites:*** Graduate Standing.

***Enforce in Banner?:*** Yes.

***Proposed Term:***  Fall 2018

***Rationale:*** The prerequisite course ME 5000 was an introductory graduate course on Solid Mechanics and is no longer offered. It should have never been a prerequisite for a Computational Material science course.

**ME 5438**

**PLASTICITY AND VISCOELASTICITY, 3 hrs.**

***Class Description:*** Analysis of stress and deformation of idealized plastic and viscoelastic solids. Limit theorems in plasticity. Time dependent behavior of viscoelastic materials. Prerequisite: ME 5000.

***Proposed Class Description:*** Analysis of stress and deformation of idealized plastic and viscoelastic solids. Limit theorems in plasticity. Time dependent behavior of viscoelastic materials. Prerequisite: ME 5472 or equivalent.

***Prerequisites:*** ME 5000

***Proposed Prerequisites:*** ME 5472 or equivalent

***Enforce in Banner?:*** No

***Proposed Term:*** Fall 2018

***Rationale:*** The prerequisite course ME 5000 is no longer offered and the relevant material is covered with the new prerequisite course ME 5472 – Continuum Mechanics.

**ME 5461**

**COMPUTATIONAL FLUID DYNAMICS I. 3 hrs.**

***Class Description:*** An introduction to the fundamental techniques and theory of computational fluid dynamics. Topics include discretization methods (finite difference, finite volume, and finite element methods), numerical stability, consistency and convergence, and solution techniques such as explicit, implicit and multigrid methods. The emphasis will be on modern techniques forcompressible flows.

Prerequisite: M ATH 5310.

***Proposed Class Description:***  An introduction to the fundamental techniques and theory of computational fluid dynamics. Topics include discretization methods (finite difference, finite volume, and finite element methods), numerical stability, consistency and convergence, and solution techniques such as explicit, implicit and multigrid methods. The emphasis will be on modern techniques for compressible flows.

Prerequisite: M ATH 5310. or Equivalent

***Prerequisites:*** Math 5310

***Proposed Prerequisites:*** Math 5310 or Equivalent

***Proposed Term:*** Fall 2018

***Rationale:*** Most graduate students have taken coursework that covers the relevant material form MATH 5310 and we are thus asking to change the prerequisite to “MATH 5310 or equivalent”

**ME 5472**

**Continuum Mechanics 3 hrs.**

***Class Description:*** The basic laws of the physical behavior of continuous media. Stress and deformation at a point; fundamental equations of balance of mass, momentum, and energy; second law of thermodynamics; curvilinear coordinate analysis. Applications to linear elasticity and fluid mechanics. Prerequisite: M ATH 3310.

***Proposed Class Description:***  The basic laws of the physical behavior of continuous media. Stress and deformation at a point; fundamental equations of balance of mass, momentum, and energy; second law of thermodynamics; curvilinear coordinate analysis. Applications to linear elasticity and fluid mechanics. Prerequisite: M ATH 5310 or Equivalent.

***Prerequisites:*** Math 3310

***Proposed Prerequisites:*** Math 5310 or Equivalent

***Proposed Term:*** Fall 2018

***Rationale:*** Most graduate students have taken coursework that covers the relevant material form MATH 5310 and we are thus asking to change the prerequisite to “MATH 5310 or equivalent”

**PETE 3025**

**TRANSPORT PHENOMENON, 3 hrs.**

***Proposed Course Title:*** Heat and Mass Transfer

***Course Description:*** Introduces energy and mass transfer concepts and the development of mathematical models of physical phenomena, including convection, diffusion, conduction and radiation, applicable to the analysis and design of chemical processes.

***Proposed Course Description:*** Introduces energy and mass transfer concepts and the development of mathematical models of physical phenomena, including convection, conduction, radiation, and mass diffusion and convection.***Prerequisites:*** C or better in ES 2330 and CHE 2005

***Proposed Prerequisites:*** C or better in ES 2330 and MATH 2310. Student must be a Petroleum Engineering major

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** The title needs to be changed to reflect clearly the contents discussed in this class, which include heat and mass transfer. The course was offered as CHE/PETE 3025 before the departments split, and CHE 3025 has been discontinued recently. To make the prerequisites and course description relevant to PETE, and since solving differential equations is an important skill needed in this class, the prerequisites and course description are adjusted.

**PETE 3200**

**RESERVOIR ENGINEERING, 3 hrs.**

***Course Description:*** Examines use of material balance equation. Studies principles of fluid mechanics applied to single and multiphase flow of fluids in porous media and decline curve analysis.

***Proposed Course Description:*** Covers rock and fluid properties, reserve estimation using volumetric and material balance methods, discussion of different reservoir drive mechanisms, aquifer models, Darcy’s law and single-phase flow through porous media, introduction to well testing, solution of radial diffusivity equation, immiscible displacement, decline rate analysis, and reservoir simulation.

***Prerequisites:*** C or better in PETE 2050. Students must be in Petroleum Engineering major

***Proposed Prerequisites:*** PETE 3025, C or better in PETE 2050. Students must be in Petroleum Engineering major.

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2018

***Rationale:*** The concepts of heat and mass transfer are very important to learn reservoir engineering, and thus PETE 3025 Heat and Mass Transfer should be one of the prerequisites for PETE 3200 Reservoir Engineering. The course description needs to be revised to reflect the course contents more clearly.

* ***College of Health Sciences***

**KIN 5586**

**UNDERSTANDING OF VARIABILITY IN HUMAN, 3 hrs.**

***Proposed Course Number:*** KIN 5033

***Course Description:*** This course is designed to re-conceptualize the variability of human movement. Using dynamical system theory, a new theoretical interpretation to the role of variability in motor behavior will be discussed to offer insights into the nature and role of variability observed at different levels of movement analysis***.***

***Prerequisites:*** Graduate standing with experience of taking undergraduate courses in Motor Behavior, Cognitive Psychology, Sport Psychology, or Coaching

***Enforce in Banner:*** No

***Proposed Term:*** Fall 2018

***Rationale:*** This graduate class has been offered twice using a generic number (KIN

5586). It has become a permanent class in the graduate curriculum and so requires a permanent number.

**NURS 3770**

**NSG. CARE IN ACUTE/CHRON ILL, 6 hrs. (Proposed 9 hrs)**

***Course Description:*** Use of the nursing process and evidence-based nursing practice with adults experiencing acute and chronic physical and psychiatric health alterations, progressing to the provision of nursing care for patients experiencing complex acute and chronic iterations. Focus is on physiological, psychological, spiritual, developmental and socio-cultural dimensions of adult patients.

***Prerequisites:*** NURS 3710, NURS 3750, NURS 3730

***Proposed Prerequisites:*** NURS 3710, NURS 3750, NURS 3730, NURS 3780

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2019

***Rationale:*** This course is a foundational course for nursing practice. The skill and knowledge now required for nursing care of adults has rapidly grown with new technologies and demands in the profession. The course will expand in credit hours to accommodate the additional skill and knowledge needed to gain professional competence for the nursing care of adults.

**NURS 3771**

**NSG. CARE IN ACUTE/CHRON PRAC, 6 hrs. (Proposed 7 hrs)**

***Course Description:*** Applications of nursing process and evidence-based nursing practice with adults experiencing acute and chronic physical and psychiatric health alterations, progressing to the provision of nursing care for patients experiencing complex acute and chronic alterations. Focus is on physiological, psychological, spiritual, developmental and socio-cultural dimensions of adult patients

***Prerequisites:*** NURS 3710, NURS 3750, NURS 3730

***Proposed Prerequisites:*** NURS 3710, NURS 3750, NURS 3730, NURS 3780

***Enforce in Banner:*** Yes

***Proposed Term:*** Fall 2019

***Rationale:*** This course will increase one credit hour to accommodate patient care simulations on campus, as an addition to the current hospital based clinical environment utilized for patient care clinical interactions.

**NURS 4735**

**NSG. CARE OF VULN. POP., 3 hrs.**

***Proposed Title:*** Vuln. Pop. And Mental Health

***Course Description:*** Synthesizes past learning to develop increasingly independent nursing practice with at risk populations in community settings. Focuses not only on groups/aggregates, but also on vulnerability conveyed by such factors as psychiatric illness. Core public health functions of community assessment, essential health services, disaster preparedness, health policy development, and global health care emphasized.

***Proposed Course Description:*** Full Course Title: Vulnerable Populations and Mental Health. This course introduces students to nursing principles and concepts of mental health psychopathology, physiology, psychology, and spirituality, along with developmental and socio-cultural considerations while incorporating treatment modalities related to the nursing care of the middle-aged and aging adult.

***Prerequisites:*** NURS 3770, NURS 3771, concurrent enrollment in NURS 4736

***Proposed Prerequisites:*** NURS 3770, NURS 3771, concurrent enrollment in NURS 4710, 4736

***Enforce in Banner:*** Yes

***Proposed Term:*** Spring 2020

***Rationale:*** The amendments in this course reflect evidence-based practice changes in the nursing profession and will incorporate vulnerable population study into one designated course instead of parts of two different courses.

**PHCY 4170**

**BIOTECHNOLOGY, 1 hr.**

***Proposed Course Number:*** PHCY 6053

***Proposed Credit Hours:*** 2 hrs.

***Course Description:*** This biotechnology course is an introduction to the novel approved therapeutic agents derived by recombinant DNA technology and other small molecules that they did not get exposure to in the medicinal  
chemistry series.

***Proposed Course Description:*** 6053. Biotechnology Drugs. 2. Designed to introduce the students to the most rapidly growing area of biological drug pharmacotherapy which involves recombinant DNA technology and isolation from natural sources. A combined lecture, discussion of current literature and seminar topics approach is used

***Proposed Term:*** Spring 2018

***Rationale:*** The School of Pharmacy would like a course number change to fit the new didactic electives designations. The most rapid growing area of pharmaceutical therapy is the biotechnology drugs arena. Many of the biotechnology drugs are now coming off patent so arises the area of “biosimilars” with these protein based agents. These are agents which are designated as “clinically equivalent” drugs but they do not necessarily have the same chemical protein structure or glycosylation which is produced from the overexpression organism used to produce the agent. The first gene therapy has recently been approved and with the discovery and use of the CRISPR-Cas9 system for individual gene editing this course needs expanded by one credit hour to cover this rapidly expanding area of therapeutics.

**PHCY 6211**

**MED AND NATURAL PROD CHEM III, 3 hrs.**

***Proposed Course Number:*** PHCY 6210

***Course Description:*** Continuation of Medicinal and Natural Products Chemistry I.

Prerequisite: PHCY 6110

***Prerequisites:*** PHCY 6110

***Enforce in Banner:*** No

***Proposed Term:*** Fall 201

***Rationale:*** This graduate class has been offered twice using a generic number (KIN

5586). It has become a permanent class in the graduate curriculum and so requires a permanent number.

**PHCY 6270**

**INTERMED PHARMACY PRACTICUM, 3 hrs.**

***Proposed Title:*** Intro Pharm Practice Exp-IPPE2

***Course Description:*** An advanced exposure to the practice of pharmacy in health care environments. Prerequisite: satisfactory completion of PHCY 6170.

***Prerequisites:*** PHCY 6170.

***Enforce in Banner:*** No

***Proposed Term:*** Fall 2018

**SOWK 5600**

**ADVANCED GENERALIST PRACTICE, 3 hrs.**

***Course Description:*** Advanced applications of generalist problem-solving theories and skills in working with individuals and families in the context of their environment. Issues of ethics, rural practice, diversity, and evaluations of practiced addressed throughout the course.

***Proposed Course Description:*** Advanced applications of generalist problem-solving theories and skills in working with individuals and groups in the context of their environment. Issues of ethics, rural practice, diversity, and evaluations of practice addressed throughout the course.

***Prerequisites:*** SOWK 5300 and SOWK 5310 or advanced standing.

***Enforce in Banner:*** Yes

***Proposed Term:***  Fall 2018

***Rationale:*** At present, there are two courses (5600 and 5700) that have the same course content listed in the course description. This is an error that was supposed to have been corrected 6 years ago or better. The course descriptions are being changed to reflect the actual content taught in each course.

**SOWK 5700**

**ADVANCED THEORIES AND PRACTICE, 3 hrs.**

***Course Description:*** Advanced applications of generalist problem-solving theories and skills in working with individuals and families in the context of their environment. Issues of ethics, rural practice, diversity, and evaluations of practice addressed throughout the course.

***Proposed Course Description:*** Advanced applications of generalist problem-solving theories and skills in working with children and families in the context of their environment. Issues of ethics, rural practice, diversity, and evaluations of practice addressed throughout the course.

***Prerequisites:*** SOWK 5300 and SOWK 5310 or advanced standing.

***Enforce in Banner:*** Yes

***Proposed Term:***  Spring 2018

***Rationale:*** At present there are two courses (5600 and 5700) that have the same content listed in the course description of what is being taught. This is an error and was supposed to have been changed many years ago. The course descriptions are being changed to reflect the actual content taught in each course.

* ***USP Consent Agenda:***

**UWYO 1101**

**SOCIAL JUSTICE AT THE U, 1 hr**

***Course Description:*** “Designed to provide students the necessary skill set to succeed at the University and beyond. Skills covered include time management, learning styles, note taking, self-motivation and more.” We’ll consider issues of social justice and ethics in and surrounding college life: sex and relationship, some of the major “isms” (sexism heterosexism, racism), affirmative action in admissions, campus freedom of speech and its limits, and consumer ethics.

***Proposed USP:*** FYS 2015

**Part II – Courses to Discontinue (Consent Agenda)**

**AGEC 1000**

**AG. & APPL. ECON ORIENTATION, 2 hrs**

**AGEC 4950**

**SR SEMINAR AND THESIS I, 1 hr**

**AGEC 4960**

**SR SEMINAR AND THESIS II**

**Part III – Courses for Addition (Regular Agenda)**

* **College of Agriculture**

**REWM/ECOL (Cannot be 5650, we will find new number)**

**LANDSCAPE GENETICS, 3-4 hrs *(will be variable credit)***

***Course Description:***

*Landscape Genetics* provides a unique opportunity for interdisciplinary training and international collaboration uniting some of the most active landscape genetics groups in North America and Europe. A key objective of landscape genetics is to study how landscape modification and habitat fragmentation affect organism dispersal and gene flow across the landscape. Meeting this and other landscape genetic objectives requires highly interdisciplinary specialized skills making intensive use of technical population genetic skills and spatial analysis tools (spatial statistics, GIS tools and remote sensing). To bring these diverse topics and skills together effectively, we are using a distributed model of teaching.

***Proposed Prerequisites:***

Population genetics, spatial analysis/statistics, and previous experience in Rare all extremely useful but not required.

***Proposed Term:*** Spring 2018

***Rationale:*** This course has been offered by Melanie Murphy as a seminar three times (spring 2012, spring 2014, spring 2016) and now needs to transition to an official course number.

Landscape Genetics provides a unique opportunity for interdisciplinary training and provides an overview of the field of landscape genetics. The course caters to students in both basic and applied ecology, especially conservation/population genetics, landscape ecology and conservation biology. A key objective of landscape genetics is to study how landscape modification and habitat fragmentation affect effective dispersal across the landscape. Landscape genetics requires highly interdisciplinary specialized skills making intensive use of technical population genetic skills and spatial analysis tools (spatial statistics, GIS, analysis in R and remote sensing). Even when students receive disciplinary training in these areas, linkage and synthesis among disciplines is often a missing piece.

Landscape Genetics is concurrently offered at ~5-8 universities in North America and Europe giving students the opportunity to learn from international experts and work with peers from outside institutions. Each course meeting starts with a live web-cast lecture by an expert on the topic that introduces foundations and methods. Course meeting is followed by an in-depth discussion/lecture and further exploration of the topic with the local (UW) class. A web-based discussion across campuses will wrap up the weekly topic. In addition, the students work through hands-on exercises in R paired with the weekly topics. Student also have the option of participating in interdisciplinary group term projects with web-based collaboration across institutions, mentored by an expert in the field. Students who participate in group projects will have the option of applying to attend a project synthesis meeting following the end of the semester. This group project has the potential to result in a peer-reviewed publication.

* **College of Arts & Sciences**

**COJO 3195**

**CULTURAL ENCOUNTERS IN CHINA, 3 hrs.**

***Proposed Course Description:*** This course is designed to study the relationship between cultures and communication through a 3-week stay in China. We will explore how cultures and communication interact, interrelate, and influence each other as well as investigating how and why cross-cultural communication is filled with both challenges and opportunities through our daily interactions with Chinese people.

***Proposed USP:*** 2015 H- Human Culture

***Proposed Prerequisite:*** COJO 1040 Introduction to Human Communication ~~or consent of instructor~~

***Enforce in Banner:*** Yes

***Restrictions:*** None

***Proposed Term:*** Summer 2018

***Rationale:*** This course resembles COJO 3190 Cross-cultural Communication. Since it will be a 3-week study abroad course, it is best to be proposed as a new course. The course will overlap with COJO 3190 in important cross-cultural concepts, theories, and research projects.

I originally led our students to China under the course name of COJO 3190. We have cooperated with two Chinese universities (e.g., Beijing Institute of Graphic Communication and Beijing University of Posts and Telecommunication) for those study-abroad classes. Those classes not only helped students navigate through their cultural encounters and experiences in China, they also have raised my students' cultural awareness, have bettered their understanding of cultural beings, and have even furthered their interest in studying communication and cultures. For example, one previous student Ryan Rasner decided to have communication as his major after the trip/class in the winter of 2013. He now has graduated from the COJO department with a master degree, and is currently enrolled in the doctoral program in the Department of Communication Studies in Louisiana State University. Another student Andrea Aispuro applied to study Chinese culture at Beijing University of Post and Telecommunication after her trip/class in the summer of 2015 and she is currently a student there. On both trips, our courses have facilitated UW with signing MOU with these two Chinese universities.

I feel keeping having a study-abroad course like this is a great way for our students to experience global cultures as well as broadcasting UW's influence around the world.

**HIST 2390**

**US WEST BETWEEN THE WORLD WARS, 3 hrs.**

***Proposed Course Description:*** Examines two pivotal decades (1918-1942) in the US West that encompasses prosperity, Depression, and reform, through the use of historical documents, art, film, literature, and music.

***Proposed Prerequisite:*** None

***Enforce in Banner:*** Yes

***Restrictions:*** None

***Proposed Term:*** Summer 2018

***Rationale:*** The US West between the World Wars (1918-1942) meets the call for new, innovative and interdisciplinary courses. It is an intense, focused study of a pivotal era in the history of the American West that utilizes a creative, interdisciplinary approach to inspire student engagement and understanding. Interdisciplinary methodologies include art history, film studies, gender studies, literature, and music, in addition to traditional investigation of historical documents. The course aligns with History departmental goals of engagement with local constituencies, as students are required to use sources from the AHC for their projects. WMST and AMST have given permission to cross-list the course, as both consider the content to align with their specific goals. I have taught US West between the World Wars twice as a Topics course (HIST 2060), and enrollment has been strong both times, indicating it appeals to student interests.

* **College of Engineering and Applied Science**

**PETE 5090**

**GRADUATE TEACHING AND RESEARCH: THEORY &  
METHODS, 2 hrs.**

***Proposed Course Description:*** A general approach to scientific research and graduate school. Topics include: purpose of graduate school, career options with graduate degrees, communication basics, literature search skills, presentations, research instrumentation, the scientific method, developing hypotheses, grant proposals, paper writing, research ethics, copyrights, patents, research

notebooks, and classroom teaching techniques.

***Proposed Prerequisite:*** Graduate standing

***Enforce in Banner:*** Yes

***Restrictions:*** None

***Proposed Term:* Fall 2018**

***Rationale:*** Course was previously taught as CHE 5090 when the Chemical and Petroleum departments were combined. Since separation,

it has been taught as PETE 5150 (topics) until this CARF could be prepared. Now, we need to have an assigned course number as this is a required course for our students.

**PETE 5320**

**GEOSTATS/SUBSURF CHARACTERIZAT, 3 hrs.**

***Proposed Course Description:*** Providing practical way for building realistic subsurface models. Students must have basic knowledge of mathematical and statistical modeling. Both fundamental and practical aspects are covered. Students will be able to take real data derived from subsurface modeling and build geostatistical models, which will be performed deterministically and stochastically.

***Proposed Prerequisite:*** Graduate standing

***Enforce in Banner:*** No

***Restrictions:*** None

***Proposed Term:* Fall 2018**

***Rationale:*** Adding an additional course for graduate students to expand their learning opportunities in an area not currently covered in the graduate curriculum.

**PETE 5350**

**ADVANCED RESERVOIR ENGINEERING, 3 hrs.**

***Proposed Course Description:*** Covers high-level understanding of modern reservoir engineering. Provides knowledge of scientific principles to formulate fluid flow, heat & mass transport in permeable media. Use analytical and computational tools to resolve research-oriented problems. Develop competence in interpreting results of modeling.

***Proposed Prerequisite:*** ~~None~~ Graduate Standing

***Enforce in Banner:*** No

***Restrictions:*** None

***Proposed Term:* Fall 2018**

***Rationale:*** Adding an additional course for graduate students to expand their learning in a topic area where specialized knowledge is in high demand in both industry and research.

* **Haub School of Environment and Natural Resources**

**ENR 4975/5975 *(tentative pending syllabus difference between 4 & 5000-level requirements)***

**INDEPENDENT STUDY, 1-6 hrs. Max 6 hrs.**

***Proposed Course Description:*** Offers students the opportunity to independently complete special academic studies under direction of a faculty member. Readings, papers, and projects are completed as directed.

***Proposed Prerequisite:*** 6 hrs in ENR

***Enforce in Banner:*** Yes

***Restrictions:*** None

***Proposed Term:*** Summer 2018

***Rationale:*** Adding an additional course for graduate students to expand their learning in a topic area where specialized knowledge is in high demand in both industry and research.

* **College of Health Sciences**

**PHCY 5041**

**HSA RESEARCH METHODS, 2 hrs.**

***Proposed Course Description:*** This course will cover the basic research designs used in health services research. Focus will be given on framing the research questions, selecting the appropriate study design and threats to the internal validity of the study designs.

***Proposed Prerequisite:*** None

***Restrictions:*** Enrolled in the HSA program ~~or by permission~~

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration.

**PHCY 5042**

**STATISTICS FOR HEALTH SERVICES, 2 hrs.**

***Proposed Course Description:*** This course will introduce students to correlation analysis, regression, analysis of variance and selected non-parametric tests, focusing on appropriate use of each and how to interpret the output of a statistical test to answer a research question.

***Proposed Prerequisite:*** None

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration.

**PHCY 5043**

**EMPIRICAL ANALYSIS FOR HSA, 3 hrs.**

***Proposed Course Description:*** This course will equip students with an understanding of research and policy debates related to economic, political, and administrative aspects of health services by providing an overview of how research can be used by health service researchers to draw onclusions about health services and their administration.

***Proposed Prerequisite:*** None

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration.

**PHCY 5145**

**PBM DECISIONS, 2 hrs.**

***Proposed Course Description:*** An overview of managed care pharmacy, with a focus on the relationship between cost controls and the access to pharmaceutical products and quality clinical services; and the relationships between, and relative responsibilities of, health plan sponsors, PBMs & providers.

***Proposed Prerequisite:*** None

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration.

**PHCY 5146**

**HEOR DATA ANALYTICS - SAS I, 3 hrs.**

***Proposed Course Description:*** An introduction to analyzing medical and pharmacy data using SAS and SQL exploring the complexities of health data, focusing on phases of the data life cycle in health economics and outcomes research, including data validation and manipulation, merging data & creating data sets.

***Proposed Prerequisite:*** None

***Enforce in Banner:*** Yes

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration.

**PHCY 5147**

**HEOR DATA ANALYTICS - SAS II, 3 hrs.**

***Proposed Course Description:*** This is an introduction to intermediate and advanced methods of analyzing healthcare data focusing on clinical risk adjustment models in SAS. This course will further explore the features and complexities of health data and build upon the Introduction to HEOR Data Analytics Using SAS I.

***Proposed Prerequisite:*** PHCY 4146 HEOR Data Analytics - SAS I

***Enforce in Banner:*** Yes

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration

**PHCY 5342**

**HEALTHCARE RISK AND QUALITY, 3 hrs.**

***Proposed Course Description:*** This course surveys the importance and processes of quality and risk in health care institutions. Students will be assigned to lead topics. Current events/topics will be utilized to inform the class.***Proposed Prerequisite:*** None

***Enforce in Banner:*** No

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration

**PHCY 5441**

**INTRO TO HEALTH LEADERSHIP, 3 hrs.**

***Proposed Course Description:*** This course will develop the health institution leader through analysis of theory and application to practice by extensive use of case studies and models. Organizational, team and individual dimensions of leadership are examined. Leadership for optimization resources and effective use of data analytics are explored.

***Proposed Prerequisite:*** None

***Enforce in Banner:*** No

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration

**PHCY 5442**

**HEALTHCARE FINANCIAL PLANNING, 2 hrs.**

***Proposed Course Description:*** This course explores financial principles incorporating the unique environment of the health institution. The mix of services (inpatient, outpatient, nursing facilities, urgent/emergency care and components) will be studied through extensive use of case studies and models to develop the health institution leader’s financial skills.

***Proposed Prerequisite:*** None

***Enforce in Banner:*** No

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration

**PHCY 5443**

**HEALTHCARE HUMAN CAPITAL PLAN, 2 hrs.**

***Proposed Course Description:*** This course will provide skills for developing and managing human capital by the health institution leader through exploration of best practices for human capital selection and development to optimize the performance of the workforce while complying with legal, regulatory, and contractual requirements through extensive use of case studies and models.

***Proposed Prerequisite:*** None

***Enforce in Banner:*** No

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration

**PHCY 5444**

**Healthcare Strategic Innovat, 2 hrs.**

***Proposed Course Description:*** This course develops strategic skills by the health institution leader through exploration of principles incorporating the unique environment of the health institution. The strategic skills will be applied to the concept of innovation through extensive use of case studies and models.

***Proposed Prerequisite:*** None

***Enforce in Banner:*** No

***Restrictions:*** Enrolled in the HSA program or by permission

***Proposed Term:*** Fall 2018

***Rationale:*** This is a new course in the on-line MS in Health Services Administration

**PHCY 6240**

**RES & EVAL METHODS IN PHARMACY, 3 hrs.**

***Proposed Course Description:*** The course focuses on research design and statistical analyses, as well as pharmacoeconomic, pharmacoepidemiology and public health concepts and methods for evidence-based practice applications and health care policy development.

***Prerequisites:*** MATH 2200 and PharmD program P2 status

***Enforce in Banner:*** Yes

***Restrictions:*** PharmD program

***Proposed Term:*** Fall 2019

***Rationale:*** Content from this course comes from two existing courses which are being discontinued: PHCY 6250 Drug Literature Evaluation (1 credit worth of content) and 6343 Methods for Population Health (entire course). The new course will be titled: Research and Evaluation Methods in Pharmacy.

**HM 6700**

**RESEARCH METHODS, 6 hrs.**

***Proposed Course Description:*** The course will describe various types of medical studies along with the advantages and limitations of each. Students will explore statistical tools related to diagnostic testing, and treatment efficacy.

***Enforce in Banner:*** Yes

***Restrictions:*** WWAMI Program

***Proposed Term:*** Summer 2018

***Rationale:*** The WWAMI Medical Education Program is revising its curriculum to include a research methods course designed to emphasize evidenced based medicine as a clinical skill. The course will describe various types of medical studies along with the advantages and limitations of each. Students will learn to critically review the medical literature when undergoing a differential diagnosis - particular emphases will be placed upon understanding the various measures of 'goodness' when evaluating diagnostic tests (ex. sensitivity, specificity, likelihood ratio, positive/negative predicted values) as well as measures of treatment efficacy (ex. number needed to treat, odds ratios, relative risk, absolute risk, etc.). In addition, students will develop an understanding of measures of uncertainty associated with clinical studies and how this uncertainty is characterized through a wide range of statistical methods (ex. Kaplan-Meier survival curves, confidence intervals, statistical hypothesis testing, etc.). This new course is part of the revised WWAMI curriculum and is a required course to be offered at all WWAMI sites.