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# University Course Review Committee

**Minutes**

**Meeting #301**

# October 16, 2019 Tobin Conference Room

# 3:00 PM Knight Hall Room 238

## Part I – Consent Agenda

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

**ATSC MESOSCALE METEOROLOGY, 2.0 hrs. (Approved)**

**5008 C*urrent Course Description:*** Fundamental dynamics of mesoscale motions including departures from hydrostatic balance. Mesoscale energy sources. Boundary layer circulations. Convective initiation. Structure and dynamics of deep convection and mesoscale organized convection. Atmospheric waves. Orographically modified flow. Prerequisite: permission of instructor.

***Requested Change of Credit Hours:***3.0 hrs.

***Requested Change of Course Description:*** Fundamental dynamics of mesoscale motions including departures from hydrostatic balance. Mesoscale energy sources. Boundary layer circulations. Convective initiation. Structure and dynamics of deep convection and mesoscale organized convection. Atmospheric waves. Thermally and dynamically forced flow over mountains.

***Proposed Term:*** Fall 2020

**ATSC SYNOPTIC AND MESOSCALE METEOROLOGY, 4.0 hrs. (Approved)**

**5016 *Current Course Description:*** Large-scale vertical motion as viewed from quasigeostrophic and isentropic potential vorticity perspectives. Baroclinic instability, and the structure and evolution of extratropical cyclones. Identification and development of fronts, jet streams and associated weather features. Symmetric instability and other mesoscale instabilities. Role of topography on large-scale and mesoscale circulations. Prerequisites: MATH 2210, PHYS 1310 and PHYS 1320 or equivalent.

***Requested Change of Course Title:***SYNOPTIC METEOROLOGY

***Requested Change of Course Description:*** Large-scale vertical motion as viewed from quasigeostrophic and isentropic potential vorticity perspectives. Baroclinic instability, and the structure and evolution of extratropical cyclones. Identification and development of fronts, jet streams and associated weather features. Role of topography on large-scale circulations.

***Proposed Term:*** Fall 2020

**ATSC METEOROLOGICAL INSTRUMENTATION, 3.0 hrs. (Approved)**

**5370 *Current Course Description:*** Basic principles of atmospheric remote sensing. Physical principles of remote sensing instruments, their response characteristics and their proper use. Error analysis and interpretation of data. Passive sensors, and active sensors such as radar and lidar. Hands-on experience with a large variety of instruments will be part of the course. Prerequisite: graduate standing in a physical science or engineering.

***Requested Change of Course Title:***SATELLITE REMOTE SENSING

***Requested Change of Course Description:*** Physical principles of atmospheric remote sensing, with a breadth of applications in passive and active remote sensing of the atmosphere. Offers a solid understanding of remote sensing instrumentation and retrieval approaches for a variety of atmospheric parameters.

***Requested Change of Prerequisite:*** graduate student in Atmospheric Science or consent of instructor.

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

***Proposed Term:*** Summer 2020

**BE BIO-DATA SYSTEMS, 2.0 hrs. (Approved)**

**4820/5820 *Current Course Description:*** Extraction of signals from noise and data analysis. Emphasis on system modeling of physiological functions from experimental data. Dual listed with BE 4820. Prerequisite: basic course, or equivalent, in electronics, ZOO 4240 or concurrent enrollment.

***Requested Change of Course Title:***BIOMEDICAL SIGNAL PROCESSING

***Requested Change of Credit Hours:*** 3.0 hrs.

***Requested Change of Course Description:*** Extraction of signals from noise and data analysis. Emphasis on system modeling of physiological functions from experimental data. Dual listed with BE 4820. Prerequisite: EE 3220, basic course, or equivalent, in electronics.

***Requested Change of Prerequisite:*** EE 3220, or equivalent.

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

***Proposed Term:*** Summer 2020

**COSC MOBILE APPLICATION PROGRAMMING, 3.0 hrs. (Approved with change in pre-req)**

**4730 *Current Course Description:*** Introduces development of applications on mobile devices. Presents the principles, techniques, and tools for developing mobile applications. Differences between desktop applications and mobile applications are discussed. Dual listed with COSC 5730. Prerequisite: COSC 3011 and COSC 3020.

***Requested Change of Prerequisite:*** Instructor’s consent. **Six hours of upper division computer science coursework.**

***Proposed Term:*** Fall 2020

**EE DIGITAL SYSTEMS DESIGN, 4.0 hrs. (Approved)**

**2390 *Current Course Description:*** Binary logic, digital logic gates, reduction of Boolean expressions, combinational logic design. MSI and LSI combinational logic ICs, flip-flops, synchronous and asynchronous sequential systems design, MSI and LSI sequential system ICs, and algorithmic state machines. Prerequisite: COSC 1010 or COSC 1030 or ES 1060, and MATH 2205.

***Requested Change of Prerequisite:*** COSC 1010, COSC 1015, or COSC 1030 or ES 1060, and MATH 2205.

***Proposed Term:*** Fall 2020

**EE ELECTRONICS I, 4.0 hrs. (Approved)**

**3310 *Current Course Description:*** Physical characteristics and models of semiconductor devices with application to electronic circuit design. Diode circuits, single transistor amplifiers, biasing, and load lines. Laboratory. Prerequisites: PHYS 1220 or PHYS 1320 and EE 2220 as a corequisite.

***Requested Change of Prerequisite:*** PHYS 1220 or PHYS 1320 or EE 3150, and EE 2220 or concurrent enrollment.

***Proposed Term:*** Fall 2020

**EE C++ WITH NUMERICAL METHODS FOR ENGINEERS, 4.0 hrs. (Approved)**

**4075 *Current Course Description:*** Introduces students to the fundamental of practical engineering programming, using specific applications of numerical methods to demonstrate these principles. The use of an object-orient approach using C++ in an efficient manner is emphasized. Other solution approaches, including C and Matlab are discussed as appropriate. Credit will not be allowed in both EE 4075 and ES 3070. Prerequisite: MATH 2205 and (COSC 1010 or ES 1060) and (MATH 2250 or 2310) or consent of instructor.

***Requested Change of Prerequisite:*** MATH 2205 and (COSC 1010, COSC 1015, or ES 1060) and (MATH 2250 or 2310) or consent of instructor.

***Proposed Term:*** Fall 2020

**PETE GEOSTATISTICS AND SUBSURFACE CHARACTERIZATION, 3.0 hrs. (Approved)**

**5320 *Current 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. Prerequisite: graduate standing.

***Requested Change of Course Number:*** PETE 5330

***Requested Change of Course Description:*** An advanced skills course about subsurface modeling using diverse data (e.g. well data, seismic info, etc.), including model development, techniques, and practical applications. Students must have basic knowledge of mathematical and statistical modeling.

***Requested Dual Listing:*** PETE 4330

***Proposed Term:*** Fall 2020

* ***College of Health Sciences***

**PHCY PHARMACY REGULATORY SYSTEMS, 2.0 hrs. (Approved)**

**4210/5210 *Current Course Description:*** Regulatory theory and practice is used to study the authority/responsibilities of three federal agencies that are entrusted to ensure the safe, effective, and efficient medication use in the United States. The practices and procedures of the FDA, DEA, and CMS are reviewed, describing why healthcare providers should comply with regulatory principles. Dual listed with PHCY 5210. Prerequisite: Upper division undergraduate status or department permission.

***Requested Change of Course Title:*** REGULATING DANGEROUS DRUG USE

***Proposed Term:*** Summer 2020

**PHCY HEALTHCARE LIABILITY LAW, 2.0 hrs. (Approved)**

**4670/5670 *Current Course Description:*** Using a case-study approach, potential legal liability issues are studies, within a health care context that primarily focuses on legal liability related to the use of medications. Strategies for reduction of legal liability are explored. The implementation and oversight of legal risk management programs is addressed. Prerequisite: Upper division undergraduate status or department permission.

***Requested Change of Course Title:*** MEDICATION MALPRACTICE

***Proposed Term:*** Summer 2020

## Part II – Regular Agenda

## Courses to Discontinue

***None at this time***

## Part III – Regular Agenda

## Courses for Addition

* ***College of Arts & Sciences***

**GEOL GEOLOGY OF THE NATIONAL PARKS, 3.0 hrs. (Approved)**

**1060 *Proposed Course Description:*** This course provides an overview of the geologic settings and processes that form the landscapes and features in the US National Parks and Monuments. We will use the National Parks to explore fundamental geologic concepts, Earth materials, natural hazards, and the dynamic tectonic forces that have affected the planet throughout geologic history.

***Proposed Prerequisite:*** none.

***Proposed USP:*** PN - approved

***Proposed Activity Type:*** Lecture

***Proposed Term:*** Fall 2020

***Rationale:*** This course will provide students with an introduction to fundamental geology concepts and topics and is intended to be one of several 1000-level core geology courses that fulfil a prerequisite for advancement in the major or minor. The content broadly overlaps with GEOL1100 (Physical Geology), which is the standard introductory GEOL course, however, the proposed course is designed to focus on the unique geology of the US National Parks and Monuments system as a mechanism to learn basic geologic principles. Course goals include acquiring the vocabulary and skills to formulate and test ideas through the analysis and interpretation of data using the scientific method and thus meets the USP PN requirements. For example, glaciation and geomorphology will be discussed in terms of the landscape and geologic history of Glacier Nat. Park; volcanism and igneous processes will be applied to understanding Mt. St. Helens and Hawaii Volcanoes Nat. Park; earthquakes and types of faulting will be examined to understand the evolution of Grand Teton and Death Valley Nat. Park; etc.

**MUSC HIP-HOP/POP MUSIC APPRECIATION, 3.0 hrs. (Approved)**

**1007 *Proposed Course Description:*** From Kool Herc, Notorious B.I.G, Van Halen, and Queen, all the way up to today’s artists, students will learn to understand, discern, and truly appreciate hip-hop and popular music.

***Proposed Prerequisite:*** none.

***Proposed Activity Type:*** Lecture

***Proposed Term:*** Summer 2020

***Rationale:*** Having no pre-requisites and being a three credit-hour course, Hip-Hop/Popular Music Appreciation fills a need for a 1000 level course that was identified by the Athletic department at the University of Wyoming. Not only would this class fill a need in terms of credits and level, it would add an impactful and accessible musical experience for students at UW as well as across the state. As an online course, we believe this course will draw large and continuing enrollment from across the state of Wyoming.

* ***College of Education***

**EDST FYS: SO YOU WANT TO BE A SUPERHERO? EXPLORING THE TEACHING**

**1101 PROFESSION, 3.0 hrs. (Approved)**

***Proposed USP:*** FYS

***Proposed Term:*** Spring 2020

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

**ATSC AIRCRAFT INSTRUMENTATION, 3.0 hrs. (Approved)**

**5360 *Proposed Course Description:*** An introduction to instrumentation used on research aircraft to measure properties of the atmosphere. Topics include measuring atmospheric state, atmospheric particles, and other constituents (i.e. trace gases) from aircraft. Principles of measurement techniques are described, complexities due to clouds are presented, and resulting uncertainties and limitations are explored.

***Proposed Prerequisites:*** Graduate student in Atmospheric Science or consent of instructor

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

***Activity Type:*** Lecture

***Proposed Term:*** Summer 2020

***Rationale:*** This course has been offered several times as a 'special topics' course (Atsc5880 -- Problems in Atmospheric Science). Recently, it has been offered once every ~3 years. We anticipate this offering sequence will continue or even increase to every two years, depending on the needs of our graduate students. This course is designed for advanced graduate students in Atmospheric Science (2nd year MS or PhD students). The high-level of specialization of this course requires that we capture 2-3 year-classes of students to ensure sufficient student numbers, promoting a dynamic environment for lectures and student-led presentations.

**CHE PRACTICAL FUNDAMENTALS OF PROCESS CONTROL, 2.0 hrs. (Approved)**

**2090 *Proposed Course Description:*** Introduces students to sensors, valves, actuators and the assembly of process control components. Provide hands-on practical experience with level control, flow control, temperature control and pressure control processes. This course consists of one (1) hour of lecture and two (2) hours of laboratory per week.

***Proposed Prerequisites:*** C or better in MATH 2205

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

***Activity Type:*** Lecture w/Lab

***Proposed Term:*** Summer 2020

***Rationale:*** CHE 2090 is a required course in the newly approved Process Control and Instrumentation Minor. The minor was developed in response to repeated requests from Wyoming industries for engineering graduates who will be able to work as process control engineers. CHE 2090 provides students with a hands-on introduction to process control concepts and equipment. The minor proposal is attached for additional information.

**CHE APPLYING SIMULATION TO DYNAMIC PROCESSES, 1.0 hr. (Approved)**

**3090 *Proposed Course Description:*** Introduces students to dynamic simulation software for controlling individual chemical engineering processes. This course consists of two (2) hours of laboratory per week.

***Proposed Prerequisites:*** C or better in CHE 2005

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

***Activity Type:*** Lecture w/Lab

***Proposed Term:*** Summer 2020

***Rationale:*** CHE 3090 is a required course in the newly approved Process Control and Instrumentation Minor. The minor was developed in response to repeated requests from Wyoming industries for engineering graduates who will be able to work as process control engineers. CHE 3090 introduces students to dynamic simulation used to control chemical engineering processes. The minor proposal is attached for additional information.

**CHE CONTROLLING PROCESS SYSTEMS, 3.0 hrs. (Approved)**

**4092 *Proposed Course Description:*** Capstone process control course. Students will design process control for systems of linked processes including sensing and transmission, final control elements, and controller. This course consists of two (2) hours of lecture and three (3) hours of laboratory per week.

***Proposed Prerequisites:*** C or better in CHE 3090 and concurrent enrollment in either CHE 4090, EE 4620, or EE 4621.

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

***Activity Type:*** Lecture w/Lab

***Proposed Term:*** Summer 2020

***Rationale:*** CHE 4092 is a required course in the newly approved Process Control and Instrumentation Minor. The minor was developed in response to repeated requests from Wyoming industries for engineering graduates who will be able to work as process control engineers. CHE 4092 provides a capstone process control experience wherein students design process control systems. The minor proposal is attached for additional information.

**CHE INTERNSHIP IN PROCESS CONTROL ENGINEERING, 1.0-6.0 hrs. (Max. 6)**

**4972 (Approved)**

***Proposed Course Description:*** Enables credit for students serving as interns with an approved organization that provides process control and instrumentation experience.

***Proposed Prerequisites:*** Be enrolled in the Process Control and Instrumentation minor

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

***Proposed Restriction:*** Process Control and Instrumentation minors only.

***Activity Type:*** Internship

***Proposed Grading System:*** S/U

***Proposed Term:*** Summer 2020

***Rationale:*** CHE 4972 is an elective course in the newly approved Process Control and Instrumentation Minor. The minor was developed in response to repeated requests from Wyoming industries for engineering graduates who will be able to work as process control engineers. CHE 4972 allows students to obtain credit for internship experience specifically in process control and instrumentation. The minor proposal is attached for additional information.

**CM CONSTRUCTION SAFETY, 3.0 hrs. (Approved)**

**2300 *Proposed Course Description:*** Introduce students to the various causes of construction accidents and adopted strategies to prevent work-site injuries and illnesses with an emphasis on OSHA standards.

***Proposed Prerequisites:*** CM 2000

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

***Proposed Term:*** Summer 2020

***Rationale:*** The Construction Management (CM) program is a new degree program in the College of Engineering. This course will be offered for the first time in Spring 2020. The course covers important learning objectives identified by the American Council for Construction Education (ACCE), the accrediting body from which the Department of Civil and Architectural Engineering will be seeking accreditation for the CM program.

**CM MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS, 3.0 hrs. (Approved)**

**2400 *Proposed Course Description:*** Introduction to mechanical, electrical and plumbing systems in site infrastructure and vertical construction projects.

***Proposed Prerequisites:*** PHYS 1110

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

***Proposed Term:*** Summer 2020

***Rationale:*** Over the past four semesters the Department of Civil and Architectural Engineering has offered coursework to support the curriculum of the recently approved Construction Management program. CM 2400, Mechanical, Electrical and Plumbing Systems teaches students critical concepts in building systems necessary to successfully plan and manage today's construction projects. The course covers important learning objectives identified by the American Council for Construction Education, the accrediting body from which the Department of Civil and Architectural Engineering will be seeking accreditation.

**ES INTERNATIONAL SYSTEMS ENGINEERING ~~IN PERU~~, 3.0 hrs. (Approved with noted**

**3001 changes)**

***Proposed Course Description:*** This 4-week service learning course will offer student hands-on experience in fabricating, assembling and installing a system ~~2.5 kilowatt turbine~~ as part of a team. Students will learn about materials, welding, electrical systems, and aerodynamics, all the while experiencing international ~~getting to experience the~~ life and cultures. ~~of Peru.~~

***Proposed Prerequisites:*** MATH 2310 ~~none~~

***Proposed Activity Type:*** Lecture w/Lab

***Proposed Term:*** Spring (J-term) 2020

***Rationale:*** The primary purpose of offering this course is to provide students with an early hands-on system engineering experience. An equally strong second purpose is the exposure of the students to the challenges working in other countries. The course will use a system engineering experience offered by fabricating, assembling, and deploying a wind turbine in Peru. The curriculum is offered by a company called WindAid that regularly provides these experiences to their attendees, so the risk associated with this class offering is low.

**ES INTERNSHIP PREPARED, 1.0 hr. (Approved with noted changes)**

**3100 *Proposed Course Description:*** The purpose of this Internship Preparation course is to prepare students for applying to internships in all applicable facets. Students will learn how to build their resume, write job specific cover letters, search for positions, and communicate with employers effectively. This course is a self-study with assignments given weekly. Students will be required to complete assignments and schedule individual appointments with an instructor in order to follow up on assignments.

***Proposed Prerequisites:*** ~~sophomore standing~~ **six credits within your discipline**

***Enforce in Banner?***: not indicated

***Proposed Activity Type:*** Lecture

***Proposed Term:*** Fall 2020

***Rationale:*** The purpose of this Internship Preparation course is to prepare students for applying to internships in all applicable facets. Students will learn how to build their resume, write job specific cover letters, search for positions, and communicate with employers effectively.

**PETE GEOSTATISTICS AND SUBSURFACE CHARACTERIZATION, 3.0 hrs. (Approved)**

**4330 *Proposed Course Description:*** An advanced skills course about subsurface modeling using diverse data (e.g. well data, seismic info, etc.), including model development, techniques, and practical applications. Students must have basic knowledge of mathematical and statistical modeling.

***Proposed Prerequisites:*** PETE 3200 or consent of instructor

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

***Proposed Restriction:*** Junior standing

***Proposed Dual Listing:*** PETE 5330

***Proposed Term:*** Fall 2020

***Rationale:*** This course was originally offered at the graduate level only, but there has been a sharp increase in the interest of undergraduates to participate as well. It has been offered as a Topics elective with success and may be included in the Unconventional Reservoirs concentration curriculum as an additional elective. The subject matter and content of the course is extremely relevant to the current industry. This course teaches students the skills to do complex reservoir and subsurface modeling projects, including subsurface characteristics, using diverse data sources.

**PETE ENERGY, ENVIRONMENT, AND MATERIALS, 3.0 hrs. (Approved)**

**4860 *Proposed Course Description:*** Understanding the connection between materials, energy and environment, including the history of climate and different types of energy in use for a greener planet. Provides broad knowledge in the areas of energy, material science, chemical, petroleum, and environmental engineering.

***Proposed Prerequisites:*** PETE 2050 or consent of instructor

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

***Proposed Restriction:*** Junior standing

***Proposed Dual Listing:*** PETE 5860

***Proposed Term:*** Fall 2020

***Rationale:*** This course has been taught for several years as a Topics elective. The subject matter and content of the course is extremely relevant to the current industry and helps understand the connections between materials, energy, and environment in the pursuit of green energy resources.

* ***Other***

**UWYO BGS CAPSTONE DESIGN, 3.0 hrs. (Approved – note edits)**

**4101 *Proposed Course Description:*** The capstone course has two major focuses: encouraging you to reflect on and integrate the learning you’ve done on your way to this degree and offering you the chance to apply that learning towards an interesting, important problem that makes good use of your growing expertise. The course also provides you the chance to refine your career-advancement materials and to develop a stronger understanding of the norms and values of fields that interest you.

***Proposed Prerequisite:*** USP COM2

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

***Proposed Restrictions:*** Bachelor of General Studies majors only

***Proposed USP:*** COM3 - approved

***Proposed Term:*** Spring 2020

***Rationale:*** Bachelor of General Studies Capstone: In general, ‘capstone’ courses are meant to provide students with a memorable, meaningful final project or experience. Research suggests that these courses help students to increase confidence/self-perception, hone collaboration and communication skills, demonstrate knowledge/learning, improve problem-solving approaches, and build their resume.

## Part IV – Tabled Courses

**NEUR**

**4720/5720 NEUROSCIENCE SPEAKER SEMINAR, 2.0 hrs.**

**Tabled for clarification of pre-req. Course should go through Health Sciences Curriculum Committee for review.**

***Proposed Course Description:*** The purpose of this course is to utilize the neuroscience visiting speaker series to build student knowledge in neuroscience, as well as skills in evaluation of the scientific literature, and oral/written communication. This will maximize student learning from the visiting speakers.

***Proposed Prerequisites:*** 4720: NEUR 5280; 5720: graduate level standing in neuroscience, biomedical sciences, zoology/physiology, or other life science programs.

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

***Proposed Activity Type:*** Seminar

***Proposed Grading System:*** Letter (A-F)

***Proposed Term:*** Summer 2020

***Rationale:*** The rapidly expanding field of neuroscience is very broad and encompasses areas that include sensory biology, addiction, neurologic diseases, learning/memory, and development. Students within the Neuroscience Graduate Program (NGP) at the University of Wyoming (UW) have dissertation projects within these and other areas. However, it is also vital for them to maintain breadth in their education and training for future professional development and career success. The interdepartmental neuroscience group at UW has had a visiting speaker seminar series for 15+ years that runs each semester. Weekly speakers are typically leaders in their specific areas of research. The speaker series is currently funded by the Sensory Biology Center that is supported by a NIH COBRE grant lead by Dr. Qian-Quan Sun. Historically, students have attended these talks and had opportunity to meet with the speakers. The main rationale for this proposal is that the speaker series offers significantly more educational opportunity than has so far been obtained for the students. We therefore propose linking the seminar series with a 2 credit class designed for eligible undergraduate students and graduate students. The learning goals of this course are to- provide breadth of exposure in neuroscience via the expertise of visiting speakers; develop skills in analysis of the neuroscience research literature; develop written science communication skills; and, develop informal science communication skills.