

PURDUE UNIVERSITY GRADUATE SCHOOL

Minutes of the Graduate Council Meeting
November 21, 2013
1:30 p.m.

Third Meeting
Room 310
Stewart Center

PRESENT: Mark J. T. Smith, chair; Council Members, Thomas W. Atkinson, John M. Barron, Lesa K. Beals, Janna L. Beckerman, Frank Blalark, Barrett S. Caldwell, Joy L. Colwell, Heidi A. Diefes-Dux, Daniel S. Elliott, Frederick S. Gimble, Linda M. Hite, Jessica E. Huber, James B. Hylton, Kumara Jayasuriya, Michael E. Kreger, Eric P. Kvam, Mark A. Lipton, Linda J. Mason, James L. Mullins, Glenn R. Parker, Phillip E. Pope, Mary A. Sadowski, John H. Schild, Keith E. Schwingendorf, Jon A. Story, Joseph Thomas III, Jane A. Walker, Jeffrey L. Whitten, Yan Ping Xin

APOLOGIES FOR ABSENCE RECEIVED FROM: Subramanian Balachander, Stacey L. Connaughton, Nancy E. Edwards, Chrystal S. Johnson, Suresh K. Mittal, George S. Mourad, Bill V. Mullen, David G. Skalnik, J. Jill Suitor, Candiss B. Vibbert (Provost's Representative), H. Holly Wang, Howard N. Zelaznik

GUESTS: Janet Beagle, Debbie Fellure, Audeen Fentiman, Colleen Gabauer, Dale Harris, Lee- Ellen Kirkhorn, Jane Kirkpatrick, Cyndi Lynch, Deb Poling, Sandy Schaffer

I. MINUTES

The minutes of the October 17, 2013, Graduate Council meeting were approved as distributed.

II. DEANS REMARKS AND REPORTS

- a) Dr. Mark Smith welcomed the newest council member, University Registrar Frank Blalark.

He also noted that the Purdue University Graduate School would be consulting with an external team from Purdue's Technical Assistance Program (TAP) to look at our review processes for new degree, certificate, and course proposals. He stated that we have worked with them in the past and feel that we will end up with a more efficient process for reviews. The team should be assembled and begin within the next month.

- b) Dr. Pope announced recent proposal approvals:
- A proposal for an Online Master of Science degree in Education,

Department of Educational Studies, PWL, has been approved by the Graduate School and the Provost. On October 17, 2013, the proposal was approved by the Indiana Commission for Higher Education (ICHE).

- A proposal for an Online Master of Science degree in Communication, Brian Lamb School of Communication, PWL, has been approved by the Graduate School and the Provost. On October 17, 2013, the proposal was approved by the Indiana Commission for Higher Education (ICHE).
- c) Dr. Joy Colwell presented the Purdue University Calumet Fall 2013 Enrollment report. The complete report is posted on the Graduate School website (www.gradschool.purdue.edu).
- d) Dr. Kumara Jayasuriya presented the Purdue University North Central Fall 2013 Enrollment report. The complete report is posted on the Graduate School website (www.gradschool.purdue.edu).

III. NEW BUSINESS

- a) Dr. Smith introduced Professor April Ginther, Director of the Office of Oral English Proficiency, who gave a presentation on the TOEFL iBT. Professor Ginther discussed the problems with interpretation and use of the TOEFL iBT. She discussed faculty interpretations and folkloric beliefs influencing use and interpretation. The following are recommendations for improvement:
- Raising awareness about use and interpretation of language proficiency scores & cut scores
 - Raising the admissions cut scores
 - Post-entry testing and support for targeted score ranges – students who arrive with a threshold
 - Advanced composition and professional development

To view a copy of the full presentation (with data) go to the Graduate Programs Office website (www.gradschool.purdue.edu/gpo.)

- b) Dr. Tom Atkinson presented *Graduate Council Document 13-30a, Resolution: Modification of the Composition of Master's Advisory Committee*. Please reference Appendix A. Dr. Atkinson noted that Dr. Dale Harris asked if we could move from having three committee members to one for certain committees. The request was brought before the GEA Committee and the regional campus representatives where there was a positive response. The resolution was discussed among the council members. Dr. Smith suggested that the members review the resolution and a vote would be taken at the January 16, 2014, meeting.

IV. AREA COMMITTEE REPORTS

Graduate Council Document 13-G, New Courses Recommended for Approval
Dr. Smith reviewed the process for approval of new proposals.

GRADUATE DEGREE PROPOSAL:

Area Committee E: Life Sciences:

Graduate Council Document 13-12b, Systemwide Collaboration to Deliver the Doctor of Nursing Practice (DNP) Degree Program (PWL, IPFW, PUC)

Dr. Jane Walker presented the Systemwide Collaboration to Deliver the DNP degree program for consideration. The proposal had been discussed in great detail at previous meetings of the Graduate Council and the Graduate Council Executive Committee meetings. Dr. Smith noted that this would be the first of its kind at Purdue University and in the state of Indiana. The proposal was approved by the council, upon a motion by Dr. Walker.

GRADUATE LEVEL COURSE PROPOSALS:

Area Committee A, Behavioral Sciences

Graduate Council Document 13-14a, AT 54000 Aviation and Aerospace Sustainability (PWL)

Graduate Council Document 13-14b, AT 54200 Aviation Fuels and Exhaust Emissions (PWL)

Graduate Council Document 13-14c, AT 54400 Aircraft Lifecycle Management Innovations (PWL)

Graduate Council Document 13-14d, AT 54600 Aviation Financial Instruments and Operations (PWL)

Graduate Council Document 13-20a, CMET 58100 Workshop in Construction Management & Engineering Technologies (PUC)

Graduate Council Document 13-20b, CMET 59000 Independent Study in Construction Management & Engineering Technologies (PUC)

Graduate Council Document 13-3f, IET 58100 Workshop in Industrial Engineering Technology (IUPUI)

Graduate Council Document 13-3g, IET 58100 Workshop in Industrial Engineering Technology (PUC)

Graduate Council Document 13-3h, IET 59000 Special Problems in Industrial Engineering Technologies (PUC)

Graduate Council Document 13-16b, ITS 58100 Workshop in Computer Information Technology (PUC)

Graduate Council Document 13-16c, ITS 59000 Independent Study in Computer Information Technology (PUC)

Dr. Heidi Diefes-Dux presented 11 courses for consideration. Dr. Diefes-Dux presented the courses in two blocks. The first block of courses presented are part of a concentration that was approved for Aviation Technology: AT 54000, AT 54200, AT 54400 and AT 54600. Dr. Smith asked if anyone would like to remove any of the courses from the block for discussion. The first block was approved by the council, upon a motion by Dr. Diefes-Dux. The second block of courses presented are a series of course numbers that are 58100 and 59000. The 58100's establish a Temporary course number and the 59000's establish an Independent Study course number. These courses are in Construction Management & Engineering Technology, Industrial Engineering Technology, and Computer Information Technology. These were new Concentrations at Purdue Calumet and one at IUPUI. They are trying to establish these Temporary courses and Independent Study courses so that they can better track student information through Banner. Dr. Smith asked if anyone would like to remove any of the courses from the block for discussion. The block was approved by the council, upon a motion by Dr. Diefes-Dux.

Area Committee B, Special Committee

Graduate Council Document 13-4h, EDPS 50900 Expressive Arts: Music, Movement, and Spiritual Expression (PUC)

Graduate Council Document 13-4b, EDPS 51600 Addictions Seminar I: HIV/AIDS and Dual Diagnosis (PUC)

Graduate Council Document 13-4c, EDPS 51700 Addictions Seminar II: Ethics, Criminal Justice, and Social Systems (PUC)

Graduate Council Document 13-4d, EDPS 52100 Counseling and Psychopathology (PUC)

Graduate Council Document 13-4e, EDPS 52200 Crisis Intervention and Emergency Management (PUC)

Graduate Council Document 13-4f, EDPS 52900 Techniques of Addictions Counseling: Counseling Skills, Groups, and Processes (PUC)

Professor Joy Colwell presented six courses for consideration. Dr. Smith asked if anyone would like to remove any of the courses from the block for discussion. Dr. Janna Beckerman requested the EDPS 52100 be pulled for further discussion. Dr. Beckerman stated that the current version of the DSM IV has been updated by a new version "V". Professor Colwell

explained that the course proposal was written before the approval of DSM version and agreed that a request would be sent to the Graduate School with the amendment of the "current version of the DSM". The course was approved by the council, upon a motion by Professor Colwell.

Dr. Glenn Parker asked that there be further discussion on these courses. Dr. Parker's concern is that the courses are being taught mainly by one person. Professor Colwell explained that it is not necessarily the only person who will be teaching the courses and that the professor listed is who formalizes the curriculum. The remaining five courses were approved as a block by the council, upon a motion by Professor Colwell.

Area Committee D: Humanities and Social Sciences

Graduate Council Document 13-17a, WOST (WGSS) 59900 Selected Topics in Women's Gender and Sexuality Studies (PWL)

Dr. Glenn Parker presented one course for consideration. Dr. Smith asked if anyone would like to remove this course for discussion. The course was approved by the council, upon a motion by Dr. Parker.

Area Committee E: Life Sciences

Graduate Council Document 13-22a, VCS 69900 Research PhD. Thesis (PWL)

Dr. Jane Walker presented one course for consideration. The course was approved by the council, upon a motion by Dr. Walker.

Area Committee F, Management Sciences

Graduate Council Document 13-19a, STAT 52501 Generalized Linear Models (IUPUI)

Dr. John Barron presented one course for consideration. The course was approved by the council, upon a motion by Dr. Barron.

V. PURDUE GRADUATE STUDENT GOVERNMENT -- PRESIDENT'S REPORT

Mr. Blake Hylton, President of the Purdue Graduate Student Government (PGSG) reported on the recent activities of the PGSG since the last council meeting. The PGSG members have worked on collaboration, in particular, a joint resolution policy with the Purdue Student Government (PSG). He also noted that they had worked on Quality of Life Initiatives. The Student Legal Services passed, effective Spring 2014 (pending contracting), Mr. Hylton discussed graduate student space noting that they now have an architect and plan to break ground in the Spring 2014. They have also been looking into graduate student housing both on and off campus.

Another area the PGSG is focusing on this year is visibility by continuing to build a good working relationship with the city of West Lafayette. Four graduate students have been appointed to various city commissions. They are beginning to look ahead towards Graduate Student Appreciation Week.

VI. OLD BUSINESS

- a) P&P Manual Updates (Presented to the council members at the October 17th meeting.) Dr. Smith stated in Section VII, of the Graduate School's *Policies and Procedures for Administering Graduate Student Programs* manual, the following language is being considered as an update. Please note where Graduate Council has been changed to dean of the Graduate School. "*Should the preliminary examination be failed twice, the student may not be given a third examination, except upon the recommendation of the examining committee and with special approval of the dean of the Graduate School.*"

Dr. Smith stated that this is something that is a minor approval that could be done at the administrative level much quicker than waiting for the next council meeting. The change was approved by the council upon a motion by Dr. Smith.

- b) Dr. Smith presented to the council members *Graduate Council Document 13-11a, Proposal to Modify Graduate School Course Approval Policy*. He noted that the members were provided a copy of the proposal in April 2013 and it had been listed on the September minutes (as required). A list of frequently asked questions was provided to the members. Dr. Smith asked for comments on the proposal. Lesa Beals from the Office of the Registrar had concerns about running out of course numbers and other recording issues from the Registrar's perspective. During a discussion about course numbers Sandra Schaffer from the Office of the Registrar noted that only the first digit in a course number carries meaning and the additional numbers should not have meaning tied to them from an academic record perspective. After further discussion, the proposal was approved by the council upon a motion by Dr. Smith.

VII. CLOSING REMARKS AND ADJOURNMENT

Dr. Smith stated that the next council meeting will be on January 16, 2014, at 1:30 p.m. in

Stewart Center, room 310. The council meeting was adjourned by Dr. Smith at 3:00 p.m.

Mark J. T. Smith, Chair

Tina L. Payne, Secretary

APPENDIX A

Resolution Number: GCdoc 13-30a

Title: Modification of Composition of Master's Advisory Committees

Author: Thomas W. Atkinson, Associate Dean

Date: November 21, 2013

GRADUATE COUNCIL,
WHEREAS

Policies and Procedures for Administering Graduate Student Programs requires that all graduate student advisory committees consist of at least one major professor and two other members of the graduate faculty; and

OBSERVING

The growth of master's degree programs that are completed without theses, directed projects, or other capstone projects/presentations; and

RECOGNIZING

That the amount of time available to graduate faculty and staff is limited and precious; and

BELIEVING

That little is gained from having multiple graduate faculty members review plans of study and approve final examinations for master's students who are meeting degree requirements entirely through the completion of courses, and

HEARING

Support and endorsement from the West Lafayette associate college deans for graduate education and from regional campus representatives for a reduction in the number of graduate faculty members required to serve on master's degree advisory committees where students fulfill their degree requirements through the completion of courses,

BE IT RESOLVED

That the Graduate Council approves that a minimum of one member of the graduate faculty (who holds a Regular appointment) be permitted to serve and fully constitute the membership of master's advisory committees for students who are completing their degrees solely through the completion of courses.

BE IT FURTHER RESOLVED

That this policy becomes implemented and effective at the beginning of an academic session after administrative and technical issues have been cleared.

**APPENDIX B
PENDING DOCUMENTS**

(January 2014)

Area Committee A, Behavioral Sciences (Heide Diefes-Dux, hdiefes@purdue.edu):

*Graduate Council Document 12-37a, **BCM 51000 Topics in Environmentally Sustainable Construction, Design & Development** (PWL)*

*Graduate Council Document 12-44a, **CGT 61100 Computer Graphics Production Pipeline and Project Management** (PWL)*

*Graduate Council Document 13-16a, **ITS 55200 Digital Forensics** (PUC)*

*Graduate Council Document 13-16d, **ITS 55400 Intrusion Detection and Prevention Systems** (PUC)*

*Graduate Council Document 13-28a, **OLS 57200 Labor Arbitration** (PUC)*

*Graduate Council Document 11-7f, **TECH 50900 Managing Information Technology** (PUC)*

Pulled for further review by area committee and council members. **NOTE:** Tabled per Area Committee Chair on 1/15/13; waiting on a reply from the department.

*Graduate Council Document 12-24b, **TECH 57800 Energy Resource Management** (PUC)*

*Graduate Council Document 11-7m, **Graduate Certificate in Sustainability**, College of Technology (PWL) Pending additional information from department.*

*Graduate Council Document 12-21a, **Graduate Certificate in Sustainable Energy Technology**, School of Technology (PUC)*

*Graduate Council Document 13-24a, **Graduate Certificate in Human Resource Development (IUPUI)**, School of Engineering and Technology, Department of Technology Leadership and Communication.*

Area Committee B, Life Sciences (Stacey L. Connaughton, chair; sconnaug@purdue.edu):

*Graduate Council Document 13-5a, **EDCI 53800 Human Issues in Instructional Technology** (PUC)*

*Graduate Council Document 13-6b, **EDFA 53900 School Administration: The Effective School Executive** (PUC)*

*Graduate Council Document 13-6a, **EDFA 61700 Legal Aspects in American Education II** (PUC)*

*Graduate Council Document 13-4i, **EDPS 51100 Expressive Arts Professional Project: Healing Through the Arts** (PUC)*

*Graduate Council Document 13-4j, **EDPS 51200 Expressive Arts: Painting, Poetry and Dreams** (PUC)*

*Graduate Council Document 13-4k, **EDPS 51300 Expressive Arts: Symbolism in Expressive Arts** (PUC)*

*Graduate Council Document 13-4a, **EDPS 51800 Introduction to Special Education** (PWL)*

NOTE: Proposer requested EDPS 51800 be tabled as of 11/3/13.

*Graduate Council Document 13-4l, **EDPS 52300 Human Growth and Development** (PUC)*

Graduate Council Document 13-4m, EDPS 52600 Integrating Students with Special Needs: A Civil Rights Movement (PUC)

Graduate Council Document 13-4n, EDPS 52800 Research in Counseling (PUC)

Graduate Council Document 13-4g, EDPS 53900 Ethics and Professional Identity for Mental Health Counselors (PUC)

Graduate Council Document 13-4o, EDPS 54600 Addictions Practicum

Graduate Council Document 12-31a, ITS 54000 Mobile Application Development (PUC)

NOTE: Proposer requested ITS 54000 be tabled as of 11/3/13.

Area Committee C, Engineering, Chemistry, and Physical Sciences (Michael E. Kreger, chair; kreger@purdue.edu):

Graduate Council Document 13-26a, CHE 55100 Principles of Pharmaceutical Engineering (PWL)

Graduate Council Document 13-26b, CHE 55300 Pharmaceutical Process, Development and Design (PWL)

Graduate Council Document 13-21a, ENGR 50000 Global Design Team V (PWL)

Graduate Council Document 13-29a, ENGR 69199 Professional Practice Graduate Co-Op I (PWL)

Graduate Council Document 13-29b, ENGR 69299 Professional Practice Graduate Co-Op II (PWL)

Graduate Council Document 13-29c, ENGR 69399 Professional Practice Graduate Co-Op III (PWL)

Graduate Council Document 13-29d, ENGR 69499 Professional Practice Graduate Co-Op IV (PWL)

Graduate Council Document 13-29e, ENGR 69699 Professional Practice Graduate Internship (PWL)

Graduate Council Document 11-24a, FS 50200 Food Plant Sanitation (PWL) Pending additional information from department.

Area Committee D, Humanities & Social Sciences (Glenn R. Parker, chair: parker6@purdue.edu):

Graduate Council Document 12-12a, ANTH 61200 Seminar in the Anthropology of Food and Nutrition (PWL) Hold per faculty members request

Graduate Council Document 13-27a, JWST 59000 Directed Readings in Jewish Studies (PWL)

Graduate Council Document 12-45a, WOST 68300 Graduate Proseminar in Women's, Gender, Sexuality Studies (PWL) **NOTE:** Tabled per Area Committee Chair; waiting on a reply from the department

Graduate Council Document 12-2a, Graduate Certificate in Professional Selling and Customer Relationship Management, Dept. of CSR, PWL

Interdisciplinary

Graduate Council Document 13-7a, Interdisciplinary Graduate Degree Guidelines – Proposal – Submitted by J. Story

Area Committee E: Life Sciences (Nancy E. Edwards, chair; edwardsn@purdue.edu):

Graduate Council Document 13-25a, BIOL 54601 Topics in Infectious Diseases (PWL)

Graduate Council Document 13-25b, BIOL 55001 Eukaryotic Molecular Biology (PWL)

Graduate Council Document 13-23a, HSCI 57100 Molecular Imaging (PWL)

APPENDIX C

NEW DOCUMENTS RECEIVED

(After the November 21, 2013 Graduate Council Meeting)

Area Committee A, Behavioral Sciences (Heidi Diefes-Dux, chair; hdiefes@purdue.edu):

Graduate Council Document 13-9c, ECET 55800 Mechatronics System Design, Modeling & Integration, (PUC) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3.

Introduction to contemporary mechatronics system elements, their structures, operations, and modeling. Static mechatronics system components and kinematics of dynamic mechatronics system components and their couplings. Modeling and simulation of rotating machinery and actuator systems. Professor Hossain.

Graduate Council Document 13-16b, ITS 52000 Web Applications, (PUC) Sem. 1 and 2. SS. Lecture 1 time per week for 160 minutes. Credit 3.

This course is designed to give technically oriented students an understanding of the technologies used in developing client/server & internet based eCommerce information systems, how to design such systems, and how to manage, secure, and maintain them. Professor Calix.

Graduate Council Document 13-16c, ITS 55100 Principles of Information Assurance, (PUC) Sem. 1 and 2. SS. Lecture 1 time per week for 160 minutes. Credit 3.

This course covers information security governance and risk management, access control, security architecture and design, physical security, telecommunication and network security, wireless security, cryptographic, business continuity, legal issues, software development assurance, security operations, security policy, security management as well as ethical backing. Professor Tu.

Graduate Council Document 13-16d, ITS 57000 Principles of Computer Networks and Communications, (PUC) Sem. 1 and 2. SS. Lecture 1 time per week for 160 minutes. Credit 3.

This course emphasizes principles and topics of computer networks and data communications. This course provides an overview of data communications such as procedures and rules in communication process. This course also includes network architectures, protocols suites, concept of internetworking, and security. Professor Kim.

Graduate Council Document 13-35a, TLI 53410 Implementation and Advanced Topics of Enterprise Six Sigma, (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3. Prerequisites: Open to all Graduate level students; IT 44600 or equivalent course for students with a classification of Junior/Senior.

This course is designed to expose master's and doctoral students to the theory behind implementation of Six Sigma at the Enterprise level. Students will develop their own research with regard to the future of the discipline through particular assessments. Topics include structure and methodology of Six Sigma deployment, including: systems thinking, change management, business process management, competitive intelligence through international standards, and the future of the discipline. Students will learn the methodology of Six Sigma at the project level for technical skill building in addition to practices of implementing and managing Six Sigma at an organizational level. Professor Laux.

Graduate Council Document 13-35b, **TLI 62579 Global, Legal, and Ethical Issues in Technology Leadership**, (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Distance.

This course examines the global, legal and ethical issues that influence global technology leadership and management. Topics include ethical decision making; management; global issues; intellectual property and innovation; business law; relevant international laws, public policies and regulations, risk management, strategic alliances and joint ventures, and issues of organizational sustainability. This course relies on the case-study approach and covers a broad range of current and emerging technologies and businesses. Professor Naimi.

Graduate Council Document 13-35c, **TLI 62650 Life of a Faculty Entrepreneur: Discovery, Delivery, Translation**, (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3. No course prerequisites, however students should be involved in research with commercial implications.

The course is designed to introduce graduate students and faculty mentors to the intellectual, financial, and management processes associated with translating research into tangible products through university initiated, early-stage commercialization (start-up) activities. Lectures will present case studies of technologies and pathways to commercialization. Guest speakers will illustrate the start-up process through real-world experience, and will also address approaches for managing entrepreneurial activities, intellectual property and conflicts of interest in a university environment. Professors Ladisch and Duval-Couetil.

Area Committee C, Engineering, Chemistry, and Physical Sciences (Michael Kreger, chair: kreger@purdue.edu):

Graduate Council Document 13-34a, **MATH 55500 Introduction to Biomathematics**, (IUPUI) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: MATH 26600, MATH 35100 or MATH 51100, MATH 42600, or consent of instructor.

The class will explore how mathematical methods can be applied to study problems in life-sciences. No prior knowledge of life-sciences is required. Wide areas of mathematical biology will be covered at an introductory level. Several selected topics, such as dynamical systems and partial differential equations in neuroscience and physiology, and mathematical modeling of biological flows and tissues, will be explored in depth. Professors Rubchinsky and Guidoboni.

Area Committee D, Humanities & Social Sciences (Glenn R.Parker, chair: parker6@purdue.edu):

Graduate Council Document 13-32a, **AMST 59000 Directed Readings in American Studies**, (PWL) Sem. 1 and 2. SS. Independent Study. Variable Credit 1 to 3. Prerequisite: Student must have upper-division undergraduate or graduate standing.

A reading course in aspects of American Studies directed by the instructor in whose particular field of specialization the content of the reading falls. Permission of instructor required. Professor Gabin.

Graduate Council Document 13-31a, **CSR 69700 Final Non-Thesis Paper**, (PWL) Sem. 1 and 2. SS. Independent Study. Variable Credit 1 to 3. Prerequisites: The students should take this course during the last semester of their non-thesis master's program. It is preferably taken after the students have completed the recommended core courses.

The curriculum of consumer behavior and family and consumer economics has evolved in the past decades with the changing market trend to currently encompassing specializations for meeting the diverse and integrated needs of individual consumers, their families, and communities. The non-thesis option is called to respond to the increasing market demand for professionals who are able to solve practical issues in the field in addition to mere epistemological pursuits. This proposed new course is designed for the students from this option to organize their learnings in the option in a way that provides propositions and strategies for addressing their topics of interest. Hence, this course should be taken during the last semester of the student's Master's program. The students will work with their major advisors for the topic and design of the study. Professor Liu.

Area Committee E, Life Sciences (Nancy E. Edwards, chair; edwardsn@purdue.edu):

Graduate Council Document 13-36a, **BCHM 59500 Current Topics in Biochemistry**, (PWL) Sem. 1 and 2. SS. Lecture 3 times per week for 50 minutes. Variable Credit 1 to 4.

Critical examination of developments in specialized fields of biochemistry not taught in other courses. Some topics include lecture, lab, directed reading or independent study. Open to graduate and upper division undergraduate students. Permission of instructor required. Professor Golden.

Graduate Council Document 13-36b, **BCHM 60400 Macromolecules**, (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3. Prerequisites: A course that covers the fundamental principles of biochemistry for students majoring in the subject is a prerequisite for this course. Enrolling in this course without this prerequisite will require the approval of the instructor.

This course will provide students with an understanding of the basic principles that underlie the secondary and tertiary structure of proteins and nucleic acids which contribute to their function. It will inform students of current efforts to engineer macromolecules with novel functions. Students will become familiar with methods used to determine the three-dimensional structures of macromolecules, and they will learn to critically evaluate the accuracy of structural models. Special topics in the current literature, including membrane proteins, drug design and ribozymes, will be covered. The class will typically include students from a variety of departments, graduate programs, and scientific backgrounds. The course will be taught primarily from various textbooks and from the primary literature. Professor Gimble.

Graduate Council Document 13-36c, **BCHM 61000 Regulation of Eukaryotic Gene Expression**, (PWL) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: BCHM 56100 and BCHM 56200 or BCHM 60400.

This course will provide students with a basic understanding of gene expression mechanisms with a specific focus on newly emerging topics. This course will be taught from current primary literature, using a textbook as a background resource. Topics will include transcription, messenger RNA decay, microRNAs and connections between gene expression steps. Students will learn how to read and interpret scientific literature through class presentations, discussions and take home assignments. Additionally, students will gain experience in developing and testing hypotheses within the class topic areas and writing a research proposal. Professor Tran.

Graduate Council Document 13-36d, **BCHM 61100 Chromatin Biology & Chromosome Dynamics**, (PWL) Sem. 1. Lecture 2 times per week for 110 minutes for 8 weeks. Credit 2. Prerequisites: BCHM 56100 and BCHM 56200 or BCHM 61000.

An exploration of current models and recent discoveries in chromatin biology and the relationship between chromatin and gene expression as well as other aspects of chromosome structure and function. Professor Kirchmaier.

Graduate Council Document 13-36e, **BCHM 62000 Protein Mass Spectrometry and Proteomics**, (PWL) Sem. 2. Lecture 2 times per week for 50 minutes. Credit 2. Prerequisites:

Students need to have taken an undergraduate level biochemistry course and be familiar with basic aspects of protein structure that are taught in such courses. In the absence of an undergraduate biochemistry course, students should discuss their qualifications with the instructor before registering.

This is a two credit course. The goals of this course are to introduce students to 1) basic principles of mass spectrometry, 2) the most common instruments used for protein mass spectrometry including the advantages and disadvantages of each, 3) the most common applications of protein mass spectrometry in biological research, 4) current approaches to quantitative protein mass spectrometry and their use in proteomic studies 5) the skills necessary to analyze mass spec data from a variety of experiment types including the ability to use and understand common database search programs, and 6) contemporary issues associated with large-scale proteomics experiments (including technical challenges and limitations) culminating in the ability to design appropriate experiments to answer a specific proteomic question. Professor Hall.