

**PURDUE UNIVERSITY
GRADUATE SCHOOL**

Minutes of the Graduate Council Meeting
February 18, 2016
1:30 p.m.

Sixth Meeting
Room 214CD
STEW

PRESENT: Mark J. T. Smith, chair; Council Members, Thomas W. Atkinson, Lesa Beals Registrar Representative), Bedrich Benes, Richard E. Blanton, David S. Cochran, Joy L. Colwell, Carlos M. Corvalan, Lucy M. Flesch, Anne L. Fliotsos, David B. Klenosky, Eric P. Kvam, Mark A. Lipton, Linda J. Mason, James L. Mohler, M. Razi Nalim, William Novshek, Keith E. Schwingendorf, David G. Skalnik, Carol S. Sternberger, Jon A. Story, Joseph Thomas III, Candiss B. Vibbert (Provost's Representative), Jane A. Walker, Jeffrey L. Whitten, Jun Xie, Yan Ping Xin, Andrew K. Zeller

APOLOGIES FOR ABSENCE RECEIVED FROM: Barrett S. Caldwell, James L. Mullins, Kathryn M. Obenchain, Vikas Tomar,

ABSENCES: Alejandro Cuza-Blanco, Natalie J. Carroll, Jonathan M. Harbor, C. Kenneth Holford, Michael A. Jenkins, Suresh K. Mittal, Chong Xiang, Howard N. Zelaznik

GUESTS: Robin Cunningham, Shawn Donkin, Debbie Fellure, Colleen Gabauer, Lee Gordon, Cyndi Lynch, Manushag Powell, Ryan Schneider

I. MINUTES

The minutes of the January 21, 2016, Graduate Council meeting were approved as presented.

II. DEANS REMARKS AND REPORTS

- a) Dr. Mark Smith noted the importance of being responsible in maintaining the academic quality of Graduate programs at Purdue in reviewing documents. It is important that we are responsive in this process in order to move proposals along in a timely manner.
- b) Dr. James Mohler gave a report on pending proposals in various stages of review and approval.
- c) Dr. James Mohler gave a report on pending course proposals in review with the Graduate Council Area Committees, proposals awaiting additional information from proposers, course proposals requested by department for removal and new course proposals received since the previous Graduate Council meeting.

d) Dr. James Mohler gave a report of administrative actions taken by the Graduate School.

III. AREA COMMITTEE REPORTS (Area Committee Chairs)

Graduate Council Document 16-B, Graduate Council Documents Recommended for Approval:

Area Committee A, Behavioral Sciences (Jeffrey Whitten, chair; jwhitten@purdue.edu):

Graduate Council Document 15-23a, CIT 51600, Database Security (IUPUI)

Graduate Council Document 15-23e, CIT 53200, Wireless Security and Technology (IUPUI)

Graduate Council Document 15-23h, CIT 55510, Network Security (IUPUI)

Graduate Council Document 15-23i, CIT 56200, Mobile and Network Forensics (IUPUI)

Dr. Jeffrey Whitten presented four courses for consideration. The courses were approved as a block by the council, upon a motion by Dr. Whitten.

Area Committee D, Humanities and Social Sciences (Richard Blanton, chair; blantonr@purdue.edu):

Graduate Council Document 15-32a, ENGL 69200, Scholarly Writing and Publishing (PWL)

Graduate Council Document 15-11b, HIST 50900, Reading Seminar in Colonial America: 17th and 18th Century American History (PNC)

Dr. Richard Blanton presented two courses for consideration. The courses were approved as a block by the council, upon a motion by Dr. Blanton.

Area Committee E, Life Sciences (Jane Walker, chair; walkerj@purduecal.edu):

Graduate Council Document 15-9e, BIOL 57810, Biology of Plant and Animal Disease Vectors (PFW)

Graduate Council Document 15-1n, NUR 66300, Assessment and Measurement in Nursing Education (PUC)

Graduate Council Document 15-1o, NUR 67600, Knowledge Translation for Transforming Healthcare (PUC)

Dr. Jane Walker presented three courses for consideration. The courses were approved as a block by the council, upon a motion by Dr. Walker.

VI. PURDUE GRADUATE STUDENT GOVERNMENT – PRESIDENT’S REPORT

Mr. Andrew Zeller, President of the Purdue Graduate Student Government (PGSG) provided information regarding:

- Teaching Assistant stipend report will be presented to the Board of Trustees
- Graduate School e-mail clearinghouse

- The Purdue Graduate Student Government will host “Freedom for the Thought that we Hate,” a lecture by Nadine Strossen on February 23rd. Strossen is the John Marshall Harlan II Professor of Law at New York Law School and former president of the American Civil Liberties Union.

VII. CLOSING REMARKS AND ADJOURNMENT

Dr. Mark Smith noted at the Council of Graduate Schools (CGS) meeting they are asked to provide information about pressing issues regarding Graduate Education in order to set the agenda. It is an opportunity for us to have answers to some of those issues addressed at a national scale so that we can receive this input from our colleagues and learn from them.

Topics of concern mentioned: (1) Graduate student health care (2) The College of Liberal Arts reallocation of funding for teaching assistants. With reduction numbers of 50% which will impact less graduate students applying to Graduate School.

The council meeting was adjourned by Dr. Smith at 2:10 p.m.

Mark J. T. Smith, Chair

Tina L. Payne, Secretary

APPENDIX A

PENDING DOCUMENTS

(February 18, 2016)

BOLDED ITEMS ARE IN REVIEW WITH AN AREA COMMITTEE

Area Committee A, Behavioral Sciences (Jeffery L. Whitten, jwhitten@purdue.edu):

Graduate Council Document 16-5a, CDFS 64300, Children in Family Therapy (PUC)

Graduate Council Document 16-5b, CDFS 64400, Trauma and Recovery in Family Therapy (PUC)

Graduate Council Document 15-28a, CGT 57200, Special Topics in Human-Centered Design and Development (PWL)

Graduate Council Document 13-9c, ECET 55800 Mechatronics System Design, Modeling & Integration, (PUC) Pending; additional information

Graduate Council Document 14-21a, MET 55000, Mechanical System Design and Integration for Mechatronics (PUC) Pending; additional documents

Graduate Council Document 16-1a, TECH 50801, Quality and Productivity in Industry and Technology (IUPUI)

Graduate Council Document 15-29a, TECH 53300, Design Theory and Technology (PWL)

Graduate Council Document 15-30b, TLI 52000, Foundations of Innovations Studies (PWL)
Graduate Council Document 15-30b, TLI 52600, Digital Innovation & Transformation (PWL)
Graduate Council Document 15-30c, TLI 52700, Behavioral Analytics (PWL)
Graduate Council Document 15-30d, TLI 62500, Research in Open Innovation I (PWL)

Area Committee C, Engineering, Chemistry, and Physical Sciences (Barrett Caldwell, chair; bscaldwell@purdue.edu):

Graduate Council Document 15-31a, CS 50010, Foundational Principles of Information Security (PWL)
Graduate Council Document 15-31b, CS 50011, Introduction to Systems for Information Security (PWL)
Graduate Council Document 15-31c, CS 52700, Software Security (PWL)
Graduate Council Document 15-31d, CS 52800, Network Security (PWL)
Graduate Council Document 14-29a, EAPS 51800, Soil Biogeochemistry (PWL)
Graduate Council Document 14-29b, EAPS 52700, Principles of Terrestrial Ecosystem Ecology (PWL)
Graduate Council Document 15-24b, ECE 60614, Reliability Physics of Nanoelectronic Transistors (PWL)
Graduate Council Document 15-24c, ECE 69200, Introduction to Graduate Research (PWL)
Graduate Council Document 14-17a, FIS 50800 Forensic Science Laboratory Management (IUPUI)

Area Committee E, Life Sciences (Jane Walker, chair; walkerj@purduecal.edu):

Graduate Council Document 16-4a, AGRY 51400, Environmental Stress Management for Turfgrass (PWL)
Graduate Council Document 16-4c, AGRY 62400, Plant Ecophysiology (PWL)
Graduate Council Document 14-15j, BIOL 58610, Sensory Ecology (PWL)
Graduate Council Document 16-2a, ENTM 50800, Integrative Insect Taxonomy (PWL)
Graduate Council Document 16-2b, ENTM 64200, Analysis of Ecological Data (PWL)
Graduate Council Document 13-23a, HSCI 57100 Molecular Imaging (PWL)
Graduate Council Document 15-33a, NUTR 62600, Advanced Presentation Skills (PWL)
Graduate Council Document 15-33b, NUTR 62700, Scientific Writing (PWL)

Area Committee F, Management Sciences (Jun Xie, chair; junxie@purdue.edu):

Graduate Council Document 16-3a, AGECE 52800, Global Change and the Challenge of Sustainably Feeding a Growing Planet, (PWL)
Graduate Council Document 15-13b, OLS 53010 Mixed Methods Research (IUPUI)

NEW DOCUMENTS RECEIVED

(After the February 18, 2016 Graduate Council Meeting)

Area Committee A, Behavioral Sciences (Jeffrey Whitten, chair; jwhitten@purdue.edu):

Graduate Council Document 16-8a, AT 69000, Independent Study in Air Transportation (PWL) Sem. 1 and 2. SS. Independent Study. Variable Credit 1 to 6.

Intensive individual study of selected current developments and issues in air transportation. A faculty sponsor is required for this course. Doctoral student standing. Professor Carney.

Area Committee C, Engineering, Chemistry, and Physical Sciences (Barrett Caldwell, chair; bscaldwell@purdue.edu):

Graduate Council Document 16-10b, ECE 50616, Physics and Manufacturing of Solar Cells (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3. Prerequisites: Graduate standing or one of the following: ECE 30500, MSE 37000, ME 31500, ME 36300, CHE 37800, PHY 33000, and CHM 37000; or consent of instructor. Prerequisite by Topic: Semiconductor physics.

This course introduces the electronic, optical and material properties and the manufacturing of photovoltaic devices. Topics include electronic charge separation, transportation and recombination; optical concentration, trapping and confinement; material preparations in photovoltaic systems; bulk crystal, thin-film and organic photovoltaic device configurations; energy storage; as well as emerging concepts in photovoltaics. Discussions also involve the process and equipment for the manufacturing of various photovoltaic modules, with special emphasis on driving down the cost of photovoltaic systems. Professor Qi.

Graduate Council Document 16-10c, ECE 50653, Fundamentals of Nanoelectronics (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3. Prerequisites: MA 26600 and MA 26500 or MA 26200. Prerequisite by Topic: Familiarity with matrix algebra, MATLAB, Elementary differential equations.

The modern smartphone is enabled by a billion-plus nanotransistors, each having an active region that is barely a few hundred atoms long. Interestingly the same amazing technology has also led to a deeper understanding of the nature of current flow on an atomic scale. The aim of this course is to make the fundamentals of nanoelectronics accessible to anyone in any branch of science or engineering, assuming very little background beyond linear algebra and differential equations, although we will be discussing advanced concepts in non-equilibrium statistical mechanics that should be of interest even to specialists.

We first introduce a new perspective connecting the quantized conductance of short ballistic conductors to the familiar Ohm's law of long diffusive conductors, along with a brief description of the modern nanotransistor. We then address fundamental conceptual issues related to the meaning of resistance on an atomic scale, the interconversion of electricity and heat, the second law of thermodynamics and the fuel value of information. Finally we introduce the concepts of quantum transport as applied to modern nanoscale electronic devices. Professor Datta.

Graduate Council Document 16-10a, ECE 60420, Radio Frequency Integrated Circuits (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3.

This course aims at analysis and design of CMOS integrated radio frequency (RF), microwave and mm-wave circuits. Various modules of an RF transceiver are discussed including, low noise amplifiers, mixers, oscillators, frequency synthesizers and power amplifiers. A term project on design of an RF to mm-wave module is also required. Graduate standing or consent of instructor. Professor Mohammadi.

Graduate Council Document 16-10d, ECE 60874, Mobile Computing Systems (PWL)

Sem. 2. Lecture 3 times per week for 50 minutes. Credit 3. Prerequisites: Graduate Standing or Consent of Instructor. Prerequisite by Topic: Object-Oriented Programming, Computer Networks, and Operating Systems.

This course will introduce the technologies of mobile computing systems for various applications, including multimedia, cloud services, location-based services, data collections and privacy. This course will include both hands-on assignments writing mobile applications as well as reading recently published papers on the technologies. The students will design mobile services and present their projects. Professor Lu.

Area Committee D, Humanities and Social Sciences (Richard Blanton, chair; blantonr@purdue.edu):

Graduate Council Document 16-12a, AAS 59000, Directed Readings in African American Studies (PWL) Sem. 1 and 2. Independent Study. Variable Credit 1 to 4.

This directed readings course allows students to work with African American Studies faculty on work that cannot be achieved through one of the regular course offerings. This is a variable topics course that can be satisfied through individual course work with an instructor. A student wishing to earn such credit is required to obtain permission of the instructor in order to enroll for the course. This does not include work for thesis or dissertation projects. Professors Patton, Stephens, Dorsey, Brown and Khabeer.

Graduate Council Document 16-11a, CSR 53100, International Health (PWL) Sem. 1. Lecture 1 time per week for 150 minutes. Credit 3.

This course explores and improves upon our understanding of International/Global Health, the different global health imperatives, SDGs, the key players, and the impact of globalization on health and the deterministic influence of global inequalities on health. The course also looks at how health systems are organized around the world, the important diseases exacting a large human toll and the global efforts underway to address them. In this course, we conduct that exploration with a critical lens, and examine the relationships between health promotion/disease prevention issues, health disparities, health inequities and social justice issues globally. We analyze the global flow of health information, the global health agenda setting, the politics and finances of transnational corporations, pharmaceuticals and the myriad influences on the international health scene and think creatively to address the health problems, policies and devise innovative interventions. This course will let us analyze the cultural, educational, social, economic, political and environmental factors that impact health and distribution of diseases in global communities. The emphasis will be on critically examining and understanding the concepts and enterprise of International Health and understanding the global health challenge that is influencing all efforts - inequalities and inequities. Professor Acharya.

Graduate Council Document 16-11b, CSR 54300, Culture and Health (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.

This course explores the various intersections of culture and health and the causal pathways which lead to health disparities. The production, exchange, maintenance, propagation and metamorphosis of cultural symbols are explored in depth here, with special focus on health-based meanings. This course is organized around the fundamental questions "How does culture construct/ influence the meanings of health and illness in different communities?", "How does culture construct/ influence health behavior?", "What is the role of culture in the causal pathway of disparities and the potential impact of culturally competent health care on improving health outcomes in ethnic minorities?" The effort here is to understand health outcomes from a cultural perspective with emphasis on understanding preventive behaviors and the different interpretations of such behaviors across cultures. Based on the review and synthesis of the literatures on cross-cultural communication/ interventions, health disparities/inequities and the cultural aspects of health, the student will engage in building a theory of cross-cultural health which can be applied to address health disparities. Issues discussed in class will include Mental illness, cardiovascular diseases, heart diseases, HIV/AIDS, Infectious diseases, unhealthy eating, cancer, drug consumption, sexual abuse, and domestic violence etc. Professor Acharya.

Graduate Council Document 16-11c, CSR 56000, Social Determinants of Health (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.

Our social environment is widely recognized for playing a critical role in shaping our patterns of health and vulnerability to diseases. Who we are, where we were born, grew up, live, work, and age are all key determinants to our current and future health. Understanding the processes through which social environment influences our health has become an important question across medical and social science fields. This course will explore key social determinants of health, including: socioeconomic status, race/ethnicity, neighborhood environments, social relationships, and political economy. Mechanisms through which these factors are hypothesized to influence health, such as stress and access to health resources and constraints, will be discussed. An overarching theme of the course will be how social factors that adversely affect health are inequitably distributed, contributing to marked health disparities. This is the first course in a series on health disparities and inequities. Professor Alexander.

Graduate Council Document 16-11d, CSR 56100, Human Rights and Social Justice (PWL) Sem. 1. Lecture 1 time per week for 150 minutes. Credit 3.

This course introduces students to notions of human rights and social justice that inform health-related realities for populations on a global scale. In this course, students will consider questions such as: what are rights, how are they socially constructed, who has rights, "deserves" them, and in ways do notions of rights impact health? How do notions of "social justice" respond to rights differentials and desperate access to social services, rights, benefits, and entitlements? In grappling with these ideas, students will gain a basic understanding of theories in health disparities research and advocacy. Consent of department. Professor Nolan.

Graduate Council Document 16-11e, CSR 60100, Introduction to Health Disparities (PWL)

Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.

This course introduces the participants to graduate level research in health disparities and the various theoretical and analytical skills needed to be a good health disparities researcher. It will take the course participants through the axiological, ontological and epistemological questions that we are confronted within social scientific research. This course will walk the participants through the various research paradigms and the critical debates associated with it so that they can reflect and possibly make an informed choice about their own research priorities. Consent of department. Professor Alexander.

Graduate Council Document 16-11f, CSR 66100, Theorizing Social Political and Economic Determinants of Health Disparities (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.

Understanding, researching, and addressing health disparities requires deeply exploring the myriad root causes of health inequity. In this course, students will engage with theories for understanding social difference that are directly related to health inequality and drive health disparities in varying contexts. Paying specific attention to race, culture, policy, economics, history, and power processes, students will develop a deeper understanding of why and how health disparities persist, better suiting them to consider avenues of social change. Consent of department. Professor Kline.

Graduate Council Document 16-9a, PHIL 59900, Graduate Project I Philosophy (PFW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.

A senior project focused study of one particular topic in philosophy. Consent of instructor required. Professors Buldt and Schwab.

Area Committee E, Life Sciences (Jane Walker, chair; walkerj@purduecal.edu)

Graduate Council Document 16-7a, BMS 53400, Systemic Mammalian Physiology (PWL) Sem. 1. Lecture 4 times per week for 50 minutes. Credit 4. Prerequisites: 200 or 300 level biology or biochemistry coursework.

This course is 4 credit hour courses that provides fundamental concepts of mammalian physiology in nervous, muscular, blood and cardiovascular, respiratory, renal, digestive, endocrine, and reproductive systems. The major physiological functions of these systems will be explained at the organ as well as the cellular level. The structure and function relationships will be studied in detail. At the end of the course, the students are expected to have a solid understanding of basic functions of human body. In addition, the student will be exposed to the current topics and key concepts of experimental research. This course offers an excellent opportunity for those students who are looking to either learn or refresh their physiological knowledge that can benefit a variety academic and professional career goals. All students are strongly encouraged to take all three parts of this class; however, students may choose to only register for one of the three modules (1 credit hour for module 1 and 1.5 credit hours each for the other two modules). Professors Shi, Asem and Yang.

GRADUATE CERTIFICATE(S):

Graduate Council Document 16-13a, Graduate Certificate from Biochemistry (PWL)

DEGREE PROPOSAL(S):

Graduate Council Document 16-10e, Proposal for Ph.D. in ECE (IUPUI)