PURDUE UNIVERSITY
GRADUATE SCHOOL

Minutes of the Graduate Council Meeting
September 17, 2015
1:30 p.m.

Second Meeting
Room 214CD
STEW

PRESENT: Mark J. T. Smith, chair; Council Members, Thomas W. Atkinson, Barrett S. Caldwell,
Natalie J. Carroll, Joy L. Colwell, Carlos M. Corvalan, Alejandro Cuza-Blanco,
Anne L. Fliotsos, Jonathan M. Harbor, C. Kenneth Holford, Jessica E. Huber,
Mark A. Lipton, Suresh K. Mittal, James L. Mullins, William Novshek,
Kathryn M. Obenchain, Phillip E. Pope, John H. Schild, 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: Lesa K. Beals (Registrar Representative)
Richard E. Blanton, David S. Cochran, Lucy M. Flesch, Michael A. Jenkins,
Eric P. Kvam, Linda J. Mason, Chong Xiang, Howard N. Zelaznik

ABSENCES: Bedrich Benes, Wenbin Yu

GUESTS: Todor Cooklev, Debbie Fellure, Colleen Gabauer, Michael Loui, Cyndi Lynch,
Anne Traynor

I.   MINUTES

The minutes of the August 26, 2015, Graduate Council meeting were approved as
presented.

II.   DEANS REMARKS AND REPORTS

a) Dr. Mark Smith stated that the Council of Graduate Schools (CGS) will be holding the
Annual International Summit on September 24th and 25th. Dr. Smith noted that universities
from every continent will be represented, with the exception of Antarctica. Dr. Smith noted
the theme for discussion will be "Big Data".

b) Dr. Phil Pope gave a report on recent degree proposal approvals.

c) Dr. Pope gave a report on pending proposals in various stages of review and approval.

III. James Mullins, Dean of Libraries and Ester Ellis Norton Professor, gave a presentation on the *Annual cost Increment of Research Journals and Databases.*

Dr. Mullins noted that a resolution is proposed with the understanding that a campus forum will take place Fall 2015 to familiarize, discuss, and assess options for maintaining current, serial and database subscriptions in future years.

IV. AREA COMMITTEE REPORTS (Area Committee Chairs)
Graduate Council Document 15F, Graduate Council Documents Recommended for Approval:

Area Committee C, Engineering, Chemistry, and Physical Sciences (John Schild, Interim chair; jschild@iupui.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 15-3a,* MSE 52700, Introduction to Biomaterials (PWL)

Dr. John Schild presented three courses for consideration. The courses were approved by the council, upon a motion by Dr. Schild.

Area Committee E, Life Sciences (Jane Walker, chair; walkerj@purduecal.edu):
Graduate Council Document 15-1g, NUR 67800 Healthcare Economics and Finance (PWL

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

GRADUATE CERTIFICATE PROPOSALS:

Area Committee A, Behavioral Sciences
Graduate Council Document 15-14a, Quantitative Research, Assessment, and Evaluation, Submitted by the Department of Educational Studies (PWL)

Dr. Jeffery Whitten presented a Graduate Certificate in Quantitative Research, Assessment, and Evaluation, Submitted by the Department of Educational Studies, PWL. He stated that the area committee had reviewed the document and it appeared to be sound and ready for council consideration. The proposal was approved by the council, upon a motion by Dr. Whitten.

Area Committee C, Engineering, Chemistry, and Physical Sciences,
Graduate Council Document 15-16a, Teaching & Learning in Engineering, Submitted by the School of Engineering Education (PWL)

Dr. John Schild presented a Graduate Certificate in Teaching & Learning in Engineering, Submitted by the School of Engineering Education, PWL. He stated that the area committee

had reviewed the document and it appeared to be sound and ready for council consideration. The proposal was approved by the council, upon a motion by Dr. Schild.

V. PURDUE GRADUATE STUDENT GOVERNMENT – PRESIDENT'S REPORT

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

- new secretary for the grad center, Tricia Olinger
- successful first Senate meeting
- PGSG Buddies Program off and running
- changes to grad healthcare necessitated by ACA
- concerns about Liberal Arts TA pay
- upcoming career fair, fall picnic

VI. NEW BUSINESS

Dr. Tom Atkinson presented the West Lafayette Fall 2014 Enrollment Report. The complete report is posted on the Graduate School website.
(http://www.purdue.edu/gradschool/faculty/enrollment.html)

VII. OLD BUSINESS

Dr. Phil Pope gave an update on the second meeting of the Task Force on Graduate Majors held on August 28, 2015.

- Co-Chair, Shawn Donkin, focused the discussion on the positives and negatives for obtaining multiple majors for one degree.
  - Positives
    - The current technical systems can accommodate multiple majors with minimal effort
    - Expand our portfolio of graduate academic/research programs
    - Offering new majors is optional
    - Likely to enhance student recruitment and enrollments

  - Negatives
    - Concern about enrollment reports and possible 'low enrollment" majors
    - Amount of work required to convert current concentrations to majors or to create a new major

- Topics for next meeting: September 28, 2015
  - Define a "major" at the graduate level
  - Discuss the academic relationship between concentrations and majors

VIII. CLOSING REMARKS AND ADJOURNMENT

The council meeting was adjourned by Dr. Smith at 2:45 p.m.

Mark J. T. Smith, Chair

Tina L. Payne, Secretary

PENDING DOCUMENTS

(September 17, 2015)

BOLDED ITEMS ARE IN REVIEW WITH AN AREA COMMITTEE

Area Committee A, Behavioral Sciences (Jeffery L. Whitten, jwhitten@purdue.edu):
Graduate Council Document 13-9c, ECET 55800 Mechatronics System Design, Modeling & Integration, (PUC) Pending; additional information
***Graduate Council Document 13-4m,* EDPS 52600 Integrating Students with Special Needs: A Civil Rights Movement (PUC)**
***Graduate Council Document 13-16d,* ITS 57000 Principles of Computer Networks and Communications (PUC); This course is being resubmitted with a new supporting document and course learning outcomes by request of Area Committee Chair on 4/18/2014.**
Graduate Council Document 13-16c, ITS 55100 Principles of Information Assurance, (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 15-21a*, Proposal for a Graduate Certificate in Addictions Counseling, submitted by Department of Graduate Studies in Education, Purdue University, Calumet.**

Area Committee C, Engineering, Chemistry, and Physical Sciences (John Schild, Interim chair; jschild@iupui.edu):
***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 14-17a,* FIS 50800 Forensic Science Laboratory Management (IUPUI)**

Area Committee D, Humanities and Social Sciences (, chair; @purdue.edu):
***Graduate Council Document 15-22a,* ANTH 64000, Foundations and Frameworks: Applying Anthropology (PWL)**
***Graduate Council Document 15-22b,* ANTH 64100, Discovery and Design: Making Projects Work (PWL) *Graduate Council Document 15-22c,* ANTH 64200, Public Engagement: Using Anthropological Knowledge (PWL)**
***Graduate Council Document 15-11a,* HIST 57300 Seminar in American History for Secondary Teachers (PNC)**

Graduate Council Document 15-12a, **BCHM 60300 Introduction to Graduate Research in Biochemistry I (PWL)**
Graduate Council Document 15-12b, **BCHM 60400 Introduction to Graduate Research in Biochemistry II (PWL)**
Graduate Council Document 15-12c, **BCHM 61501 Pathways (PWL)**
Graduate Council Document 14-15j, **BIOL 58610, Sensory Ecology (PWL)**
Graduate Council Document 15-9c **BIOL 54410 Invasion Biology (PFW)**
Graduate Council Document 15-9b **BIOL 56010 Clinical and Molecular Aspects of Neurodegenerative Diseases (IUPUI)**
Graduate Council Document 15-5b, **FNR 65000 Individual –Based Ecology and Modelling (PWL)**
Graduate Council Document 13-23a, **HSCI 57100 Molecular Imaging (PWL)**
Graduate Council Document 15-1h, **NUR 69010, Research Seminar (PWL)**
Graduate Council Document 15-1i, **NUR 69020, Leadership Seminar (PWL)**
Graduate Council Document 15-1j, **NUR 69030, Communication Seminar (PWL)**
Graduate Council Document 15-1k, **NUR 69040, Collaboration Seminar (PWL)**
Graduate Council Document 15-1L, **NUR 69050, Implementing Theory Healthcare Research (PWL)**
Graduate Council Document 15-1m, **NUR 69060, Innovative Care/Innovations in Healthcare Delivery (PWL)**
G*raduate Council Document 14-26a,* **Proposal for a Ph.D. in Nursing, from the School of Nursing (PWL)**

Graduate Council Document 15-13a, **OLS 50100 Leadership and Ethics, (IUPUI)**
Graduate Council Document 15-13b, **OLS 53010 Mixed Methods Research (IUPUI)**
Graduate Council Document 15-13c, **OLS 56100 Critical Thinking and Problem Solving (IUPUI)**
Graduate Council Document 15-13d, **OLS 56200 Greening Organizations (IUPUI)**
Graduate Council Document 15-13e, **OLS 56300 Sustainable Practices in Business and Industry in the European Union (IUPUI)**
Graduate Council Document 15-13f, **OLS 57100 Advanced Project Management (IUPUI)**

NEW DOCUMENTS RECEIVED
(After the September 17, 2015 Graduate Council Meeting)

Graduate Council Document 15-23a, **CIT 51600, Database Security** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3. Prerequisites: CIT 21400 or Basic database background and SQL language.
     This course provides a strong foundation in database security and auditing. It will cover topics on security, profiles, password policies, privileges and roles, Virtual Private Databases, and

auditing. The course also covers advanced topics such as SQL injection, database management security issues such as securing the DBMS, enforcing access controls, and related issues. Professor Wu.

Graduate Council Document 15-23b, **CIT 51800, Database Management and Design Techniques** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3. Prerequisites: Graduate standing.

 This course will introduce the fundamental and advanced topics of the database systems, including data models, database languages, database design, relational algebra, SQL, indexing, and transactions. Special focuses on the entity relationship data model and conceptual schema design, schema normalization and integrity constraints, SQL, query processing and optimization, storage and indexing, concurrency control, and database recovery. Other advanced topics in big data such as key-value stores, object-relational mappings, and streaming databases will be also discussed. Professor Wu.

Graduate Council Document 15-23c, **CIT 52200, Technology from a Global Perspective** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3. Prerequisites: Graduate standing.

 The course will examine technology from a global perspective. By looking at historical events and breakthroughs, analyzing current uses and scope, and determining future trends. Technology will include the use of information technology/systems, hardware, software, business applications, manufacturing equipment and more. Exploring the Internet and its use in business, education and at home and it implications, including but not limited to social networking, open courseware, e- commerce and communications. Topical areas that may be discussed: Globalization, Technological advances, Green Technology, Social media, Business technology practices, and Leading businesses in technology. Professor Jafari.

Graduate Council Document 15-23d, **CIT 52600, Applied Data Analytics** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3. Prerequisites: Knowledge in data structures, algorithms, and basic statistics or consent of instructor.

 Presents and applies the advanced techniques for data wrangling, cleaning, sampling, management, exploratory analysis, regression and classification, and prediction. The class project involves hands- on practice of applied data analytics from various data sets. It is also designed for students from different disciplines who need to analyze large amounts of data. Graduate standing. Professor Wu.

Graduate Council Document 15-23e, **CIT 53200, Wireless Security and Technology** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3.

 This course will provide in-depth coverage of wireless communications and security. Fundamentals and state of the art developments in the wireless security area will be covered, including advances in cellular, personal communications systems (PCS), wireless LANs, and fixed wireless networks. Significant details of wireless devices and corresponding security issues will be addressed. Emerging challenges and solutions in wireless vulnerabilities, attacks, and solutions at various layers of the protocol stack, spanning the stack from aspects of physical communication to application and service security issues, will also be covered. Graduate standing. Professor Li.

Graduate Council Document 15-23f, **CIT 54600, Mobile Computing Technologies and Applications** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3.

 This course will provide technological and research foundation in the area of mobile computing through in-depth coverage of mobile computing concepts and technologies. State of

the art mobile computing systems, such as location and context based service, cognitive radio and dynamic spectrum access, and security and privacy in mobile networks, will be included. The course will involve readings and discussion on emerging topics in mobile computing research and hands-on experience in applying the technology to practice. Graduate standing. Professor Liu.

Graduate Council Document 15-23g, **CIT 55410, Management of Information Technology Resources** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3.

This course will examine the role of IT management in organizations. Integration of IT to enable the strategic mission of corporations will be discussed. Topics include the role of the IT manager, managing the IT team, IT staffing issues, compliance, and risk management. A final paper will be produced. Additionally, the intersection of technology and the business, when to hire vs contract, the role of internships in a staffing strategy, finding a balanced service offering and designing an adaptive infrastructure. Graduate standing. Professor Justice.

Graduate Council Document 15-23h, **CIT 55510, Network Security** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3.

This course focuses on advanced conceptual and technological aspects of network security for voice and data networks. The students will deal with the advanced analysis, design, implementation, and management issues surrounding effective network security. Technology research and presentation of results, as well as security technology implementation, are required course outcomes. Graduate standing. Professor Li.

Graduate Council Document 15-23i, **CIT 56200, Mobile and Network Forensics** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3.

This course deals with the process of mobile and network forensics and cyber-crime scene analysis. The various laws and regulations dealing with computer forensic analysis will be discussed. Students will analyze and synthesize the collection, preservation, analysis, and presentation of mobile and network evidence. Students will analyze evidence to the emerging international standards for computer forensic analysis, as well as a formal methodology for conducting mobile and digital forensic investigations. Graduate standing. Professor Justice.

Graduate Council Document 15-23j, **CIT 56800, Distributed Systems and Cloud Computing** (IUPUI) Sem. 1 and 2. Lecture 1 time per week for 150 minute. Distance. Credit 3.

The objective of this course is to give students a basic grounding in designing and implementing distributed and cloud systems. This course will combine hands-on experience in developing cloud services, with a firm grounding in the tools and principles of building both client-side and server-side cloud applications. In addition to cloud services, topics on cloud support for batch processing such as the MapReduce framework that drives most cloud data processing, and its use in NoSQL data stores such as HBase and MongoDB will be covered. Graduate standing. Professor Li.

Graduate Council Document 15-23k, **CIT 61800, Advanced Topics in Database** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minute. Distance. Credit 3.

This is an advanced database course, which covers several emerging topics for database systems and explores cutting-edge technologies for "big data" movement. Topics to be discussed include database techniques to store large-scale data sets, data mining tools for analyzing large-scale data collections, and information retrieval over large-scale data collections. Special coverage will be provided on NoSQL, NewSQL, HadoopDB, column-stores, Row-Stores, NoDB, and others. The class will focus on several real-world application

domains, such as biomedical imaging, health care, and social network analysis. Graduate standing. Professor Wu.