PURDUE UNIVERSITY
GRADUATE SCHOOL

Minutes of the Graduate Council Meeting
January 21, 2021
1:30 p.m.

Fourth Meeting
Via Zoom - No face to face meeting due to COVID-19

PRESENT: Linda J. Mason, chair, Council Members, Dulcy M. Abraham, Raida Abuizam,
Christopher R. Agnew, Thomas W. Atkinson, Christopher K. Belous,
Janice S. Blum, Steven J. Burdick, David S. Cochran, Joy Colwell, G. Jonathan
Day, Eric D. Deemer, Bryan DeWitt, Duane D. Dunlap, Emad Elwakil, Levon
Esters, Keith B. Gehres, Margaret Gitau, Richard H. Grant, Patricia Hart,
Erla Heyns, Timothy B. Lescun, James L. Mohler,
Melanie Morgan, Madelina Nuñez Zhan Pang, Tina L. Payne, Paul Salama,
Abraham Schwab, Ann Shanahan, David G. Skalnik, John A. Springer, Jill Suitor,
Joseph D. Thomas, Candiss B. Vibbert (Provost's Representative),
Nicole J. Widmar, Daoguo Zhou

APOLOGIES FOR ABSENCE RECEIVED FROM: Chong Gu, John A. Morgan,
Mitchell L. Springer, Eric Waltenburg

ABSENCES: Suzanne C. Bart, Rita A. Burrell, Paul F. Muzikar, Anson Soderberry,
Yoon Yeo, Chenn Zhou

GUESTS: Debbie Fellure, Korena Vawter

 I. **MINUTES**
   **The November 2020 Graduate Council meeting minutes were approved via the
   Qualtrics Survey.**

II. DEANS REMARKS AND REPORTS

   Dean Linda Mason
   • Due to COVID, modification of policies will be in place for Spring
     semester. Dean Mason and the Graduate School Associate Deans will look
     at these policies and come forward to the Graduate Council to determine if
     these policies may be permanent and what rules may be changed such as
     the electronic exams. The graduate student surveys indicate the electronic
     exams are going well.

- Graduate students continued to attend professional development workshops during the Fall semester.
- The Office of Professional Development held over 135 workshops with 6600 registrations during the Fall semester; adding 100. Those workshops will be available virtually in the Spring to all the campuses including our Purdue online students.
- Faculty who have topics of interest in offering a workshop are welcome to contact the Office of Professional Development.
- Work continues on the policy that faculty have a conversation on what a graduate student needs to do to make satisfactory progress in their degree when taking research credit course 698 or 699 that does not have a syllabus. Faculty need to go into My Purdue and check the box indicating agreement on deliverables for research credit. If a faculty member has not checked the box, and gives a student an "Unsatisfactory" grade and the student files a grade appeal, the Graduate School will stand by the student.
- The winners of the Social Justice Grant for graduate students will be sent via email today. Graduate students were asked to submit a grant proposal to do something that would affect graduate education in the lines of Social Justice to go along with what happened this past summer with Black Lives Matter. Graduate students reviewed and voted on three proposals. We are working with those students to move those ideas forward into reality. Those proposals can be located on the Social Justice Graduate School Purdue website describing those proposals.
- Discussion with the Regional campuses to operate as a graduate education system at Purdue. On paper we operate that way; however, many things do not work well for graduate students. The stackables for all units would be one idea. Every campus needs to think about what could be offered to everyone. If students can move around within four locations, why do we need to offer the same thing in four different places as we go online. What things are unique to the system that we want to be able to take advantage of?
- An opportunity came up last semester in a discussion with Purdue Global and their law school. How would our students gain access to information in law without getting a law degree? Graduate students are going into careers that would be helpful to understand business law. Conversations with Concord Law School about offering a graduate certificate, starting with a general one and building that in specific areas.
- How do we bring knowledge into the system so students can do this? Students do not want to register at Purdue Global and become a Concord Law School student. If a student is here on an assistantship and their tuition is covered, they can get a certificate in any department or college and they have the ability to move among those, so how do they do this? The conversations with the Concord Law School is to figure out how to develop a model on how would a student would be moved that is here if they were to offer a certificate. How do we move tuition dollars back and forth? How do we cover when it is an assistantship? How do we move credit back and

forth? As we work through the details and make a plan, the Council will be a part of how that plan will work.

- The National Graduate Deans conversations discussed where graduate education is going. It is not that we will always have traditional degrees with our traditional Masters or Ph.D's, but it is this other way to interact long term with graduate education. Other ways to interact with students who need information after receiving a bachelor's degree in the working world. How do we connect that information that we have on the technical expertise in various areas and present it for individuals to connect with us? We are talking with lifelong learners and Purdue alumni about being connected with Purdue in an educational way and things we can offer them on noncredit to credit. The idea is how can one gain additional knowledge above a Bachelor's degree in graduate education and how can one benefit from that financially within units. We ask that everyone think creatively and the graduate school will help figure out how to make it work.

- A report on the Housing Taskforce with information a graduate student gathered last semester will be presented this semester. Discussions continue with Purdue Research Foundation about graduate housing. It is our hope to present something to the Board of Trustees this semester and possibly begin construction in the next year.

- A plan has been submitted to the Provost for restructuring the way graduate education is funded by the institution. Ideas and how we spend tuition funds that come to us and how we might be able to spread those dollars further at the University without modifying how we plan and spend that money. More money would be available for more scholarships and assistantships. We are thinking of ways in which we fund the National Science Foundation Fellows or Fulbright Fellows. Ideas in how we may spend money for graduate student tuition after students pass prelims. Many institutions do not pay the full tuition fee once a student passes their prelims because they are not taking classes any longer. It would save money on grants if a student is funded for four years on the grant and the last two years we are not paying that full tuition.

- The unified application system went live July 1, 2020. Students have the opportunity to apply to three graduate programs under one application and one application fee. This allows more people to see the application. There are three applications and three review committees who see the applications. Programs are asking if they are a second choice, can they approach the student or do they have to wait until the first choice turns them down and then they can look at the application.

- We need to give better instructions to students on how to write a statement of purpose when applying to more than one department and direct them to the location where the instructions are posted.

- We ask that departments notify the Graduate School with information from graduate review committees that would be helpful to update the instructional guides for both the student side and the faculty side.

- How will departments deal with new applications from undergraduates with online courses that were pass/fail that were allowed that year if grades are not really grades. How will admission committees deal with these applications when some students will have grades?
- Having discussions within departments is critical as the application review process begins for students that are coming from institutions where transcripts may look different.
- They may not have standardized testing as departments are removing the GRE from their standards. We have some colleges that have eliminated the GMAT from all their departments.
- How are we going to do holistic reviews of graduate applications?
- Dr. Kevin Gibson serves as a half time appointment in the Graduate School. Dr. Gibson works on the holistic review, the GRE. and manages the Sloan Grant. A website is being designed with resources for faculty to talk about holistic reviews, the pros and cons of the GRE, and the data behind not using the GRE. Contact Dr. Gibson to discuss and provide resources for faculty and grad admission committees to review and understand the holistic review.
- Discussion with the Board of Trustees and Don Thompson's group on how we can improve the black experience at Purdue including graduate education.
- Last summer the Bridge Program was held virtually and students connected with the virtual opportunity. Students who are accepted into graduate programs at Purdue are able to come early to begin writing their proposals and working on literature reviews.
- A new Director of Diversity was hired for the Diversity Office last year. We are reevaluating the Diversity programs and looking at how we can best support students. The plan is to meet with students virtually this summer due to COVID,
- Dean Mason and Dr. Kevin Gibson looked at the data on the programs that have the best success of bringing in underrepresented minority students. There is five years of data to see how those numbers have changed.

James Mohler, Associate Dean of the Graduate School
- Interdisciplinary Master's Degree is now offered by the Graduate School. The general Interdisciplinary Studies major allows a student to build from the ground up through courses or by stacking certificates.
- Two majors approved at this time are: Corporate Training and Communication and Secondary STEM Education (with initial licensure).
- The Interdisciplinary Studies Major allows a student to stack two certificates and add courses. We are testing this idea of stacking these credentials and know what the boundaries need to be on what the guidelines need to be. If you have two certificates that share a course, do you double count that toward the masters? No, it could count in both certificates towards the Masters so the course can count only once. These

are some of the logistical issues to discuss. University level initiatives
could be shared and tested to grow and flourish.

III.   AREA COMMITTEE REPORTS (Area Committee Chairs)
    Graduate Council Document 21A, Graduate Council Documents Recommended
    for Approval. See Appendix B. Voted via Qualtrics survey.

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

    Madelina Nuñez, President of the Purdue Graduate Student Government (PGSG)
    - Purdue Graduate Student Government (PGSG) and Purdue Student Government
      (PSG) have partnered with Jonathan Grode, U.S. Practice Director and Managing
      Partner at Green & Spiegel, to bring monthly Immigration Attorney Sessions
      throughout the Spring 2021 semester.
    - Increase access to immigration legal services by offering monthly virtual services
      free to undergraduate and graduate students at Purdue University.
    - Sessions will be held on Tuesday's with general information to learn about any
      immigrations changes or questions regarding visas.
    - Sessions will be held on Wednesdays and Thursdays for undergraduate and
      graduate students to sign up for a 20-minute consultation with Jonathan Grode.
      Students are limited to one session per semester.
    - Upcoming Events:
        o PGSG Virtual Career Fair – Tuesday, February 16, 2021
        o Mental Health Action Week – Monday, March 1, 2021 – Friday, March 5,
          2021
        o Interfaith Prayer and Meditation Room – Now Open, Stewart Center,
          Room 213
        o Anonymous reporting via PGSG website

    The council meeting was adjourned by Dean Mason at 2:47 p.m.

                                   Linda J. Mason, Chair
                                   Tina L. Payne, Secretary

BOLDED ITEMS ARE IN REVIEW WITH AN AREA COMMITTEE

Area Committee A, Behavioral Sciences (G. Jonathan Day, chair; gjday@purdue.edu):
Graduate Council Document 20-13e, **EDCI 59600, Pedagogy I: Introductory Methods For Secondary Education Transition To Teaching Program (PWL)**
Graduate Council Document 20-13f, **EDCI 59700, Pedagogy II: Advanced Methods For Secondary Education Transition To Teaching Program (PWL**
Graduate Council Document 20-11d, **SLHS 50601, Neural Bases Of Hearing (PWL)**
Graduate Council Document 20-11d, **SLHS 50601, Neural Bases Of Hearing (PWL**

Area Committee B, Engineering, Sciences, and Technology (Dulcy M. Abraham, chair; dulcy@purdue.edu):
Graduate Council Document 20-55a, **CGT 53400, Technical Documentation In The Digital Enterprise (PWL)**
Graduate Council Document 20-56a, **CIT 50700, Measurement And Evaluation In Industry And Technology (IUPUI)**
Graduate Council Document 20-19f, **ME 53101, Particle, Powder, And Compact Characterization (PWL)**
Graduate Council Document 20-19g, **ME 53102, Particle, Powder, And Compact Characterization Laboratory (PWL)**

Area Committee C, Chemistry, Engineering, and Physical Sciences (John Morgan; chair, jamorgan@purdue.edu):
Graduate Council Document 20-45b, **BME 56400, Ethical Engineering Of Medical Technologies (PWL)**
Graduate Council Document 20-45c, **BME 64600, Deep Learning - Theory And Practice Of Deep Neural Networks (PWL)**
Graduate Council Document 20-57a, **FS 56000, Food Science Graduate Cooperative Work Experience (PWL)**

Area Committee E: Life Sciences, (Timothy Lescun, chair; tlescun@purdue.edu):
Graduate Council Document 20-31b, **BIOL 54210, Biometry (PFW)**

Area Committee F, Management Sciences (Nicole J. Widmar; chair, nwidmar@purdue.edu):
Graduate Council Document 20-33f, **MGMT 67301, Data Preparation & Visualization (PNW)**
Graduate Council Document 20-33i, **MGMT 67401, Decision Analytics (PNW)**

Graduate Council Document 20-33g, **MGMT 68401, Advanced E-Business Strategy (PNW)**
Graduate Council Document 20-33h, **MGMT 68501, Supply Chain Management (PNW)**

DEGREE(S):

Area Committee C, Chemistry, Engineering, and Physical Sciences (John Morgan; chair, jamorgan@purdue.edu):

Graduate Council Document **20-59a, Ph.D. in Clinical Pharmaceutical Sciences, submitted by the Department of Pharmacy Practice, PWL**

CERTIFICATE(S):

Area Committee D, Humanities and Social Sciences (Jill Suitor, chair; jsuitor@purdue.edu):
Graduate Council Document **20-47a, Graduate Certificate in Geospatial Information Science, submitted by Libraries and Information Studies, PWL**

Area Committee F, Management Sciences (Nicole J. Widmar; chair, nwidmar@purdue.edu):
Graduate Council Document 20-28g, **Graduate Certificate in Marketing Analytics, submitted by the Department of Management, PWL.**

GC Document 21-A

**DOCUMENTS RECOMMENDED FOR APPROVAL
BY THE GRADUATE COUNCIL
January 2021**

GRADUATE COURSE PROPOSALS:

Area Committee A, Behavioral Sciences (G. Jonathan Day, chair; gjday@purdue.edu):

Graduate Council Document 20-13e, **EDCI 59600, Pedagogy I: Introductory Methods For Secondary Education Transition To Teaching Program** (PWL) Sem. 1 and 2. SS. LEC/DIS arrange hours.
Credit 3.
 This course is the introductory seminar for the secondary Transition to Teaching (TTT) programs across disciplines. Students who enroll in this course will be seeking teaching licensure in one of the secondary program areas available at Purdue University. Therefore, instruction in the course will revolve around general educational concerns and issues that are applicable to all content area instruction at the middle and high school levels. Permission of department required. Typically offered Fall Spring Summer.
https://purdue.curriculog.com/proposal:14559/form

Graduate Council Document 20-13f, **EDCI 59700, Pedagogy II: Advanced Methods For Secondary Education Transition To Teaching Program** (PWL) Sem. 1 and 2. SS. LEC/DIS/EXP arrange hours, experiential with 50- hour field experience. Credit 3.
    This sixteen-week course is the capstone methods course for the online Transition to Teaching (TTT) program. Students who enroll in this course will be seeking teaching licensure in one of the secondary program areas available at Purdue University. Therefore, instruction in the course will revolve around general educational concerns and effective teaching approaches that are applicable to all content area instruction at the middle and high school levels. This course extends engagement with the pedagogical principles of practice introduced in *Transition to Teaching: Pedagogy I*. The course also includes a fifty-hour field experience component. Permission of department required. Typically offered Fall Spring Summer.
https://purdue.curriculog.com/proposal:14631/form

Graduate Council Document 20-11d, **SLHS 50601, Neural Bases Of Hearing** (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3.
    Section I. Neuroanatomy. Anatomy terminology, overview of cochlear neuroanatomy; afferent and efferent cochlear innervation; auditory nerve formation and termination points in the

cochlear nucleus; Neuroanatomy of Cochlear Nucleus, Superior Olivary complex, Nuclei of Lateral lemniscus, Inferior colliculus, Medial geniculate body and the auditory cortex, corticofugal efferent pathways complex.

Section II. Physiology Neuronal Physiology; response properties of the auditory nerve, cochlear nucleus, superior olivary complex, inferior colliculus, medial geniculate body and auditory cortex, rate-place and temporal-place neural encoding schemes in the auditory nerve, intensity encoding, frequency tuning in normal and cochlear loss, binaural processing in the superior olivary complex and inferior colliculus, feature maps in the inferior colliculus and medial geniculate body and serial, parallel, hierarchical processing in the auditory cortex and role of cortico thalamic and corticocollicular pathways in shaping subcortical neural representation. Typically offered Fall.
https://purdue.curriculog.com/proposal:14472/form

Graduate Council Document 20-11e, **SLHS 68800, Research Integration And Dissemination For Evidence Based Practice** (PWL) Sem. 1. Lecture 1 time per week for 110 minutes. Credit 2.

The focus of this course is on developing skills integrating current research and communicating about research in clinical practice. Students complete a comprehensive project involving a literature review, clinical decision and poster. They gain guidance from a skilled mentor in their research area and receive course instruction on best practices in scientific communication in a variety of modes, including developing an oral pitch, preparing a literature review and evaluation, and creating and delivering a poster and writing a research abstract. Typically offered Fall.
https://purdue.curriculog.com/proposal:14107/form

Area Committee B, Engineering, Sciences, and Technology (Dulcy M. Abraham, chair; dulcy@purdue.edu):

Graduate Council Document 20-55a, **CGT 53400, Technical Documentation In The Digital Enterprise** (PWL) Sem. 1 and 2. LEC/LAB and/or DIS. Credit 3. Prerequisites: CGT 51400.

This course will explore the different ways technical documentation manifests itself within the digital enterprise to support the digital thread. We will use various industry applications to create and modify technical documentation and explore the processes and applications that facilitate the creation, storage, and configuration technical documentation. Typically offered Fall Spring.
https://purdue.curriculog.com/proposal:12615/form

Graduate Council Document 20-56a, **CIT 50700, Measurement And Evaluation In Industry And Technology** (IUPUI) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.

This course is an introduction to measurement strategies and evaluation of data in industry and technology within the context of research design and implementation. Students will learn not only basic statistics in this course but will also learn about the research process by designing, conducting, and analyzing the data for a small empirical research project using real world data. The material in this course is directly relevant to student professional development. Data collection and interpretation are key day-to-day aspects of social and behavioral science,

humanities, communication, economics, physical science, biological and medical science, technology, education psychology, business, environmental science, education and government. In addition, the ability to use computers and other technologies around data has become a critical elements in most professional decision-making processes. Typically offered Fall Spring.
https://purdue.curriculog.com/proposal:12636/form

Graduate Council Document 20-19f, **ME 53101, Particle, Powder, And Compact Characterization** (PWL) Sem. 2. Lecture 2 times per week for 75 minutes for 10 weeks. DIS expected to be offered Sp'23, not Sp'21. Credit 2.
   The goal of this course is to familiarize students with the properties and methods used to characterize the physical and mechanical behavior of particles, granules, and compacts with the intention of using these properties for process and performance design. Typically offered Spring.
https://purdue.curriculog.com/proposal:14579/form

Graduate Council Document 20-19g, **ME 53102, Particle, Powder, And Compact Characterization Laboratory** (PWL) Sem. 2. Laboratory 2 times per week for 75 minutes for 5 weeks. Credit 1. Prerequisites: ME 53101.
   The goal of this laboratory course is to train students on state-of-the-art laboratory equipment used to measure the mechanical properties of particles, granules, powders, and compacts. Typically offered Spring.
https://purdue.curriculog.com/proposal:14581/form

Area Committee C, Chemistry, Engineering, and Physical Sciences (John Morgan; chair, jamorgan@purdue.edu):

Graduate Council Document 20-45b, **BME 56400, Ethical Engineering Of Medical Technologies** (PWL) Sem. 1 and 2. SS. Lecture 3 times per week for 50 minutes. Credit 3.
   This course examines many of the ethical challenges surrounding the design, development, and deployment of medical technologies. Issues will be analyzed from multiple frameworks and perspectives including industry, government, and society. Students will learn and practice identification and analysis of ethical issues. They will develop empathic and decision-making skills designed to prepare them as engineers to deal productively and ethically with issues in professional practice. Typically offered Fall Spring Summer.
https://purdue.curriculog.com/proposal:14562/form

Graduate Council Document 20-45c, **BME 64600, Deep Learning - Theory And Practice Of Deep Neural Networks** (PWL) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.
   This course teaches the theory and practice of deep neural networks from basic principles through state-of-the-art methods. The class blends hands-on programming, using a variety of state-of-the-art programming frameworks, with theoretical treatment based on current literature. Implementation will emphasize the use of the Pytorch language and the use of dynamic computational graphs. Some previous experience with optimization techniques is important for success in the course. Typically offered Fall Spring.
https://purdue.curriculog.com/proposal:14527/form

Graduate Council Document 20-57a, **FS 56000, Food Science Graduate Cooperative Work Experience** (PWL) Sem. 1 and 2. SS. Distance. Experiential. Credit 0.

Supervised professional experiences in the food science industry. Programs must be preplanned and conducted under the direction of the departmental coordinator with the cooperation of an employer. Students must submit a summary report. Permission of department required. Typically offered Fall Spring Summer.
https://purdue.curriculog.com/proposal:13838/form

Area Committee E: Life Sciences, (Timothy Lescun, chair; tlescun@purdue.edu):

Graduate Council Document 20-31b, **BIOL 54210, Biometry** (PFW) Sem. 1. Lecture 1 meeting per week for 150 minutes. Credit 3. Prerequisites: STAT 34000, Graduate, or Permission from Instructor.

Application of statistical analysis to biological data. Topics include foundations of R syntax and semantics; comparison of frequentist and Bayesian probability; review of parametric and non-parametric analyses; and applied use of non-linear analyses, spatial analysis, ordination, and other techniques to analyze biological data. Permission of instructor required. Typically offered Fall.
https://purdue.curriculog.com/proposal:14172/form

Area Committee F, Management Sciences (Nicole J. Widmar; chair, nwidmar@purdue.edu):

Graduate Council Document 20-33f, **MGMT 67301, Data Preparation & Visualization** (PNW) Sem. 2. Lecture 1 time per week for 150 minutes. Distance. Credit 3.

The course topics will include data visualization best practices, live and interactive dashboard development, and data storytelling. The course will also show students how to shape, blend, and join various data sources in order to provide useful information.
https://purdue.curriculog.com/proposal:13725/form

Graduate Council Document 20-33i, **MGMT 67401, Decision Analytics** (PNW) Sem. 1. Lecture 1 time per week for 150 minutes. Distance. Credit 3.

Covers up-to-date and practical spreadsheet modeling tools, which can be applied to a wide variety of business problems in finance, marketing, and operations. Consists of simulation modeling techniques to analyze risk and uncertainties in business environment, optimization techniques to determine the best managerial actions under internally- and/or externally-imposed constraints, and real-world examples and cases to demonstrate broad applications of spreadsheet modeling and simulations in manufacturing and service operations, supply chain systems, yield management, asset dynamics, option pricing, etc.
https://purdue.curriculog.com/proposal:13732/form

Graduate Council Document 20-33g, **MGMT 68401, Advanced E-Business Strategy** (PNW) Sem. 2. Lecture 1 time per week for 150 minutes. Distance. Credit 3.

This course presents an overview of e-business from design to operations of organizations engaging in the fast-paced highly competitive, global environment of e-commerce. Topics

include the impact of e-business, strategic use of IT for competitive advantage, e-business impact on organization, globalization, and the impact on options created through applied IT. It is designed for students pursuing leadership roles in defining IT policy and strategy.
https://purdue.curriculog.com/proposal:13357/form

Graduate Council Document 20-33h, **MGMT 68501, Supply Chain Management** (PNW) Sem. 2. Lecture 1 time per week for 150 minutes. Distance. Credit 3.

Logistics and supply chain management activities have always been vital to organizations of all kinds. This management area, which federates activities as diverse as production, transportation, inventory, warehousing, purchasing, material handling, sales, and customer service, represents a synthesis of methods and techniques coming from traditional business areas of finance, accounting, management, and marketing, as well as business decision-making tools offered by operations research, statistics, and economics. In general, this course covers the major issues in supply chain management, including: definition of a supply chain; role of inventory; advanced production-inventory models; supply contracts; bullwhip effect and information sharing; vendor-managed inventories and other distribution strategies; third-party logistics providers; managing product variety; information technology and supply chain management; international issues.
https://purdue.curriculog.com/proposal:13345/form

CERTIFICATE(S):

Area Committee D, Humanities and Social Sciences (Jill Suitor, chair; jsuitor@purdue.edu):

Graduate Council Document 20-47a, Graduate Certificate in Geospatial Information Science, submitted by Libraries and Information Studies, PWL
https://purdue.curriculog.com/proposal:13882/form

Area Committee F, Management Sciences (Nicole J. Widmar; chair, nwidmar@purdue.edu):

Graduate Council Document 20-28g, Graduate Certificate in Marketing Analytics, submitted by the Department of Management, PWL.
https://purdue.curriculog.com/proposal:14347/form

DEGREE(S):

Area Committee C, Chemistry, Engineering, and Physical Sciences (John Morgan; chair, jamorgan@purdue.edu):

Graduate Council Document 20-59a, Ph.D. in Clinical Pharmaceutical Sciences, submitted by the Department of Pharmacy Practice, PWL
https://purdue.curriculog.com/proposal:13762/form

Area Committee A, Behavioral Sciences (G. Jonathan Day, chair; gjday@purdue.edu):

Graduate Council Document 21-14a, **ASEC 53100, Global Learning For Agriculture, Food And Natural Resources** (PWL) Sem. 2. SS. Lecture 2 times per week for 75 minutes. Experiential. Credit 3.

    This is a graduate-level course in which students research, design, and evaluate communication and education methods and theoretical frameworks to apply appropriate cultural, community engagement, targeted outcomes of a population defined by the student. The central experience is an international/intercultural professional development experience immersed in rural and urban communities and cultures. Students will learn and develop global perspectives and effective engagement strategies to address agronomic, cultural, and community engagement realities affecting agriculture, life sciences and natural resources. Typically offered Spring Summer.

Graduate Council Document 21-8a, **EDCI 61450, Seminar In Bilingualism And Multilingualism** (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3.

    This course examines theories, research and educational practices in bilingualism and multilingualism. Students will become familiar with major conceptual and methodological issues in research about the use and acquisition of two or more languages in bi/multilingual societal and educational contexts. Individual and societal dimensions will be considered through the examination of a wide range of approaches. Accordingly, the course is transdisciplinary in nature, bringing together work from anthropology, education, psychology, and (socio) linguistics. Typically offered Fall Spring Summer.

Graduate Council Document 21-1b, **EDPS 50702, Addressing Demographic Health Disparities In Telehealth** (PWL) Sem. 1 and 2. SS. Distance. Lecture 1 time per week for 120 minutes for 8 weeks. Credit 3.

    The practice of tele-mental health is expanding rapidly. This expansion reflects both increased opportunities afforded by technological advances within the healthcare field, as well as pressing needs to resolve persistent healthcare disparities associated with in-person services. As part of the Certificate in Telemental Health Counseling, this course will prepare students to take a systematic view of the challenges and opportunities of transitioning live practices to telehealth, by preparing students to Identify demographic telemental health disparities at local, national, and international levels; describe key barriers that produce demographic telemental health disparities; generate a telemental health access toolkit to address demographic disparities within a specific practice and/or field. Typically offered Fall Spring Summer.

Graduate Council Document 21-9c, **CGT 52200, UX Design Graduate Studio I: Fundamentals** (PWL) Sem. 1. Studio 1 time per week for 170 minutes *or* Lecture 2 times per week for 50 minutes and Laboratory 2 times per week for 50 minutes *or* Laboratory 1 time per week for 170 minutes. Credit 3.

This course is an introduction to the fundamental components of human-centered design, focusing on interactive computing systems. Students learn basic tenets and methods of user-centered design, including usability and visual design principles, user research, low-fidelity prototyping, and high-fidelity prototyping. The course is platform-independent and encourages students to experiment with new and emerging technologies. Typically offered Fall

Graduate Council Document 21-9a, **CGT 52400, Model-Based Definition in the Digital Enterprise** (PWL) Sem. 1 and 2. Distance. Credit 3.

This course will explore Model-based definition (MBD), an emerging industry technique that uses 3D CAD models with annotations to communicate information between people and equipment instead of using drawings. This technique results in reduced variability during data translation, more accurate product definition information and wider dissemination of product data through an increasingly digital corporate enterprise. Typically offered Fall Spring.

Graduate Council Document 21-9d, **CGT 53200, UX Design Graduate Studio II: Cross-Channel** (PWL) Sem. 2. Studio 1 time per week for 170 minutes *or* Lecture 2 times per week for 50 minutes and Laboratory 2 times per week for 50 minutes *or* Laboratory 1 time per week for 170 minutes. Credit 3.

This course is an advanced exploration of cross-channel approaches to human-centered design, such as service design, that span digital and physical experiences. Students utilize principles of usability and user experience to create and evaluate physical prototypes. The course is platform-independent and encourages students to experiment with new and emerging technologies. Typically offered Spring.

Graduate Council Document 21-9b, **CGT 54300, Experimental Animation** (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 50 minutes. Laboratory 1 time per week for 150 minutes. Credit 3.

This course introduces key theoretical and applied concepts of experimental animation. Evolving technology consistently provides new opportunities for experimental practices in animation production. In this course, students will engage with experimental creative practices including abductive reasoning, abstraction, generative animation, motion graphics, simulations, glitch, and mixed digital media. These experimental animations are suitable for a wide range of outputs including experimental short film, installation, projection mapping and a range of online platforms. Typically offered Fall Spring Summer.

Graduate Council Document 21-10a, **CNIT 54200, Design-Based Research Applications** (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.

The course provides an opportunity for students to study and apply design-based research to evaluate and improve learning environments. Specifically, the course focuses on using design-based research as a methodological approach to combine instructional design and research in a cyclical and interdependent manner. Students are expected to apply this approach with the goal of simultaneously solving practical problems and developing a sharable theory by connecting design features to valued outcomes. Typically offered Spring.

Graduate Council Document 21-10a, **CNIT 61700, Cyberphysical Security Seminar: Research Topics In Cyberphysical Security** (PWL) Sem. 1. Lecture 1 time per week for 150 minutes. Credit 3.

This course meets the requirements of a research seminar for the CIT graduate program. Students focusing on homeland security and related research areas are encouraged to take this course to expand their knowledge of the field in general and in their specific research areas. The students will present their research to one another to gain knowledge of topics in the subject area. The student numbers will include PHSI student research assistants, interns, and students focused on homeland security research topics. The creation of this course will provide these students more structure for engagement, learning and research. Students taking the course will construct a research paper formatted for publication in a homeland security research journal. This course will also promote the interdisciplinary nature of homeland security from information technology to public policy generation and agent-based computer modeling. Permission of Instructor required. Typically offered Fall.

Graduate Council Document 21-7a, **ME 53900, Data Analytics For Scientists And Engineers** (PWL) Sem. 2. Lecture 2 times per week for 75 minutes. Distance. Credit 3. Prerequisite(s): Working knowledge of probability and numerical methods for engineers at the level of Introduction to Probability (MA 41600), and Numerical Methods in Mechanical Engineering (ME 58100).

Introduction to the fundamentals of predictive modeling for advanced undergraduates and graduate science and engineering students that work in the intersection of data and theory. Typically offered Fall.

Graduate Council Document 21-7b, **ME 54100, Decision Making In Engineering Design** (PWL) Sem. 2. Lecture 2 times per week for 75 minutes. Distance. Credit 3.

Multi-objective decision making under risk and uncertainty; Group decision making; Sequential decision making; Model-based and data-driven decision making; Heuristics and biases in design decision making. Applications to engineering design including estimation of customer preferences, simulation-based design, and sustainable design. Typically offered Spring.

Area Committee D, Humanities and Social Sciences (Jill Suitor, chair; jsuitor@purdue.edu):

Graduate Council Document 21-15a, **POL 60900, Advanced Applied Research Design** (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3. Prerequisites: POL 60000 with grade of B or better.

   The main goal of this seminar is to guide graduate students when preparing their Ph.D. dissertation proposals. The seminar aims to do two things. The first is to provide an overview of the crucial research design tools and research planning considerations that can help students plan and carry out better dissertation projects. The second is to offer a structured forum where students can present and received feedback on their dissertation proposals. With permission from the Director of Graduate Studies, this course may be repeated and used to support the development of a grant proposal or research publication. Typically offered Spring.

Graduate Council Document 21-15ba, **POL 68500, Professional Development Practicum** (PWL) Sem. 1 and 2. Lecture 1 time per week for 50 minutes. Experiential 1 time per week for 50 minutes for 8 weeks. Credit 1.

   This course examines the ethics, norms, and expectations of the profession of political science and public policy for those engaged in doctoral level study. The course explores topics of professional development to support progress in the degree and building a successful career. Topics each semester vary. Permission of department required. Typically offered Fall Spring.

Area Committee E: Life Sciences, (Timothy Lescun, chair; tlescun@purdue.edu):

Graduate Council Document 21-6a, **HSCI 54601, Advanced Industrial Hygiene Control Technology Project** (PWL) Sem. 2. Independent Study 1 time per week for 50 minutes. Credit 1. Prerequisites: HSCI 34600.

   Students study the various techniques needed to control hazards in the workplace. Engineering controls are placed in effort to reduce or remove the hazard at the source by isolating the worker from the hazard. Permission of instructor required. Typically offered spring.

Graduate Council Document 21-6b, **HSCI 54800, Advanced Industrial Hygiene Instrumentation Techniques** (PWL) Sem. 2. Lecture 2 times per week for 50 minutes. Laboratory 2 times per week for 50 minutes. Credit 3. Prerequisites: HSCI 34500.

   This course covers sophisticated field and laboratory instrumentation and techniques, sampling methodology for organic vapors, dust, fibers, noise, and heat; calibration and validation techniques; emphasis on critical analysis of data. Typically offered Spring.

Graduate Council Document 21-6c, **HSCI 54801, Advanced Industrial Hygiene Instrumentation Techniques Project** (PWL) Sem. 2. Independent Study 1 time per week for 50 minutes. Credit 1. Prerequisites: HSCI 34800.

   This course covers sophisticated field and laboratory instrumentation and techniques, sampling methodology for organic vapors, dust, fibers, noise, and heat; calibration and validation techniques; emphasis on critical analysis of data. Permission of instructor required. Typically offered Spring.

Graduate Council Document 21-6d, **HSCI 55301, Advanced Occupational Safety Management And Culture Project** (PWL) Sem. 2. Independent Study 1 time per week for 50 minutes. Credit 1. Prerequisites: HSCI 35300.

The Occupational Health and Safety Manager assumes a critical role within an organization – protecting the employees from suffering work-related injuries, illnesses, and fatalities. This job requires a number of approaches to achieve this aim, including employee training, hazard identification and abatement, safety policy development, and incident investigation. The health and safety manager often forms a bridge between upper management and front line employees. As such, the successful health and safety manager needs to skill sets which transfer across organizational levels. Permission of instructor required. Typically offered Fall.

Graduate Council Document 21-6e, **HSCI 58001, Occupational Biomechanics And Ergonomics Laboratory** (PWL) Sem. 1. Laboratory 1 time per week for 100 minutes. Credit 1. Prerequisites: PHYS 23300 and PHYS 23400. Co-requisite(s): HSCI 58000.

This course will be the laboratory component for HSCI 58000, Occupational Biomechanics and Ergonomics. Laboratory exercises will accompany and illustrate each topic discussed during the lecture course. An ergonomic project will allow the students to evaluate an individual performing a job and provide ergonomic recommendations to improve the work situation. The course will also emphasize report writing, teamwork, and communication skills. Typically offered Fall.

Graduate Council Document 21-5a, **VCS 60500, Supervised Surgical Laboratory Training In Small Animal Surgical Techniques And Approaches Assessment** (PWL) Sem. 1 and 2. SS. Laboratory 1 time per week for 240 minutes. Each lab is 4-8 hours with 9 total labs each year. Credit 1.

Small animal neurosurgical, orthopedic and soft tissues approaches, techniques, and procedures practiced in cadaver labs. Only graduate students enrolled in an American College of Veterinary Surgeons or American College of Veterinary Internal Medicine - Neurology/Neurosurgery residency will be eligible. Permission of instructor required. Typically offered Fall Spring Summer.

Area Committee F, Management Sciences (Nicole J. Widmar; chair, nwidmar@purdue.edu):

Graduate Council Document 21-4a, **MGMT 56001, Master of Accountancy Program Assessment** (PNW) Sem. 1 and 2. SS. Distance. Credit 0.

Students will be required to engage in assessment activities such as the Accounting and Business Case Study, Core Business Knowledge Exam, and Master of Accountancy Exit Survey as determined by the Faculty of the College of Business. This is a zero credit course but is graded Pass/No Pass. Students are required to take this course during their final semester of the MAcc Program.

There are two aspects to the MAcc assessment: (1) Major Fields Test (MFT), which requires the completion of an individual standardized assessment covering general business knowledge, and (2) Assurance of learning (individual) case covering globalization, corporate social responsibility, critical thinking, and written communication. The assessments are administered by the Graduate Curriculum Committee. Typically offered Fall Spring Summer.

CERTIFICATE(S):

Area Committee A, Behavioral Sciences (G. Jonathan Day, chair; gjday@purdue.edu):

Graduate Council Document 21-13a, Graduate Certificate in School Administration, submitted by the School of Education, PFW
https://purdue.curriculog.com/proposal:15071/form

Area Committee B, Engineering, Sciences, and Technology (Dulcy M. Abraham, chair; dulcy@purdue.edu):

Graduate Council Document 21-11a, Graduate Certificate in Project Management, submitted by the Dept. of Technology, Leadership, and Communication, PIU
https://purdue.curriculog.com/proposal:14301/form

MAJOR(S):

Area Committee A, Behavioral Sciences (G. Jonathan Day, chair; gjday@purdue.edu):

Graduate Council Document 21-12a, Graduate Major in Information Security, submitted by the Graduate School Administration, PWL
https://purdue.curriculog.com/proposal:14014/form