

**PURDUE UNIVERSITY
GRADUATE SCHOOL**

Minutes of the Graduate Council Meeting
October 17, 2019
1:30 p.m.

Second Meeting
Room 279
STEW

PRESENT: James L. Mohler, deputy chair, Council Members, Dulcy M. Abraham, Christopher R. Agnew, Blake A. Allan, Thomas W. Atkinson, Christopher K. Belous, Ryan A. Cabot, Kuan-Chou Chen, David S. Cochran, William (Bart) Collins, G. Jonathan Day, Duane D. Dunlap, Emad Elwakil, Richard H. Grant, Signe E. Kastberg, Athena Kennedy, Samuel P. Midkiff, John A. Morgan, Melanie Morgan, Paul F. Muzikar, Tina L. Payne, Paul Salama, Abraham Schwab, David G. Skalnik, John A. Springer, Mitchell L. Springer, Jill Suitor, Joseph D. Thomas, Xavier M. Tricoche, Candiss B. Vibbert (Provost's Representative), Eric Waltenburg, Nicole J. Widmar

APOLOGIES FOR ABSENCE RECEIVED FROM: Taylor W. Bailey, Rita A. Burrell, Janice S. Blum, Patricia Hart, Timothy B. Lescun, Linda J. Mason, William McCartney, Beth McNeil, Zhan Pang, Manushag (Nush) Powell, Anson Soderbery, Rebecca H. Stankowski, Chenn Zhou

ABSENCES: Keith B. Gehres, Margaret Gitau, Yoon Yeo, Daoguo Zhou

GUESTS: Gregory Blaisdell, Debbie Fellure, Mary Johnson, Sean McCann, Manoji Patankar, Aparajita Sagar, Korena Vawter

I. MINUTES

The minutes of the September 19, 2019, Graduate Council meeting were approved as presented.

II. DEANS REMARKS AND REPORTS

Dr. James Mohler noted the Task Force Committees for the 2019-2020 Academic Calendar year are: 1) Law Degree partnering between West Lafayette and Global 2) Diversity 3) Online Ph.D.'s, and 4) Housing and Pay for Graduate Students. Dr. Mohler thanked the council Members who volunteered to serve on the Task Force committees.

III. AREA COMMITTEE REPORTS (Area Committee Chairs)

Graduate Council Document 19F, Graduate Council Documents Recommended for Approval:

Area Committee A, Behavioral Sciences (Signe Kastberg; chair, skastber@purdue.edu):

*Graduate Council Document 19-6b, **EDCI 62500, Individualized Competency***

Earning in Learning Design & Technology (PWL)

*Graduate Council Document 19-59a, **EDPS 61801, Intellectual Neuropsychological Assessment (PWL)***

*Graduate Council Document 19-44a, **PSY 51300, Introduction To Computational Cognitive Neuroscience (PWL)***

*Graduate Council Document 19-44d, **PSY 51500, Neuroscience Of Consciousness (PWL)***

*Graduate Council Document 19-44b, **PSY 61501, Systems and Behavioral Neuroscience (PWL)***

*Graduate Council Document 19-44c, **PSY 62101, Genes, Brain And Behavior (PWL)***

*Graduate Council Document 19-52a, **TCM 51000, Effective Workplace Technical Communication (IUPUI)***

Dr. Signe Kastberg presented seven courses for consideration. The courses were approved by the council, upon a motion by Dr. Kastberg.

Area Committee B, Engineering, Sciences, and Technology (Samuel Midkiff; chair, smidkiff@purdue.edu):

*Graduate Council Document 19-54a, **AT 54700, Airline Revenue Management (PWL)***

*Graduate Council Document 19-42a, **CEM 53100, Facilities Engineering and Management (PWL)***

*Graduate Council Document 19-42b, **CEM 53200, Infrastructure Planning (PWL)***

*Graduate Council Document 19-45a, **CIT 52600, Applied Data Analytics (IUPUI)***

*Graduate Council Document 19-45b, **CIT 54600, Mobile Computing And Application Technologies (IUPUI)***

*Graduate Council Document 19-15e, **ECE 50800, Introduction To Visualization Techniques (PNW)***

*Graduate Council Document 19-15b, **ECE 53201, Power System Analysis (PNW)***

*Graduate Council Document 19-15c, **ECE 53500, Adaptive Signal Processing With Applications (PNW)***

*Graduate Council Document 19-15d, **ECE 55000, Computer Network Security (PNW)***

*Graduate Council Document 19-15e, **ECE 56801, Digital Control Systems (PNW)***

*Graduate Council Document 19-48a, **ITS 53000, Practical Deep Learning (PNW)***

*Graduate Council Document 19-48b, **ITS 53100, High Performance Computing And Big Data (PNW)***

*Graduate Council Document 19-17b, **ME 56802, Ceramic Materials (IUPUI)***

*Graduate Council Document 19-17c, **ME 59800, Mechanical Engineering Graduate Seminar (IUPUI)***

Dr. Sam Midkiff presented fourteen courses for consideration. The courses were approved by the council, upon a motion by Dr. Midkiff.

Area Committee D, Humanities and Social Sciences (Manushag (Nush) Powell, chair; mnpowell@purdue.edu):

Graduate Council Document 19-56a, ILS 63000, Digital Humanities Foundations (PWL)
Graduate Council Document 19-56b, ILS 63100, Digital and Analog Archives (PWL)
Graduate Council Document 19-2e, ENGL 60511, Editing and Publishing (PWL)
Graduate Council Document 19-2f, ENGL 60611, Technical Communication (PWL)
Graduate Council Document 19-2g, ENGL 60711, Designing Documents, Interfaces, And Graphics (PWL)
Graduate Council Document 19-2h, ENGL 60811, Entrepreneurship Communication (PWL)
Graduate Council Document 19-2i, ENGL 60911, Users Experience And Design Thinking (PWL)
Graduate Council Document 19-47a, LING 50100, Language Acquisition (PWL)

Due to the absence of Chair Manushag (Nush) Powell, Dr. Bart Collins presented eight courses for consideration. The courses were approved by the council, upon a motion by Dr. Collins.

Area Committee E: Life Sciences, (Ryan A. Cabot, chair; rcabot@purdue.edu):

Graduate Council Document 19-58a, BIOL 57601, Bioinformatics (PNW)
Graduate Council Document 19-58b, BIOL 57701, Ecology of Microorganisms (PNW)
Graduate Council Document 19-40a, HORT 53000, Introduction To Computing For Biologists (PWL)
Graduate Council Document 19-40b, HORT 53100, Applied Plant Genomics (PWL)
Graduate Council Document 19-41a, NUR 50310, Advanced Health Assessment For Nurse Educators (PNW)
Graduate Council Document 19-41b, NUR 50710, Pathophysiologic Concepts And Pharmacologic Interventions For Nurse Educators (PNW)

Dr. Ryan Cabot presented six courses for consideration. The courses were approved by the council, upon a motion by Dr. Cabot.

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

Graduate Council Document 19-55a, ECON 63800, Advanced Topics In International Trade (PWL)
Graduate Council Document 19-18e, MGMT 56900, Ethical and Sustainable Supply Chain Management (PWL)
Graduate Council Document 19-18d, MGMT 69500, MBA Assessment (PNW)
Graduate Council Document 19-18f, MGMT 69700, MBA Internship (PNW)
Graduate Council Document 19-50a, OBHR 54100, Leading Management of Diversity and Inclusion in Organizations (PWL)
Graduate Council Document 19-50b, OBHR 54200, Leading Management of Diversity and Inclusion in Organizations (PWL)
Graduate Council Document 19-43a, STAT 51800, Introduction To Statistical Learning (PFW)

Dr. Nicole Widmar presented seven courses for consideration. The courses were approved by the council, upon a motion by Dr. Cabot.

DEGREE PROGRAMS:

Area Committee B, Engineering, Sciences, and Technology (Samuel Midkiff; chair, smidkiff@purdue.edu):

*Graduate Council Document 19-23a, **Ph.D. in Aviation Technology and Management**, submitted by the School of Aviation Transportation and Technology in the Purdue Polytechnic Institute (PWL)*

Dr. Sam Midkiff presented one degree for consideration. The degree was approved by the council, upon a motion by Dr. Midkiff.

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

*Graduate Council Document 19-60a, **MS in Defense Engineering and Technology**, submitted by The Graduate School (PWL)*

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

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

Mr. Taylor Bailey, President of the Purdue Graduate Student Government (PGSG) was unable to attend the meeting. Dr. James Mohler reported the Graduate Student Bill of Rights and Responsibilities that was endorsed by the Graduate Council last Spring, will be returning back to the Senate for review again. Dr. Tom Atkinson noted that the Purdue Graduate Student Government has been in conversation with the Purdue Alumni Association on how current graduate students can connect to Purdue Alumni who have master's or doctoral degrees. They have found a vehicle to do this, which will be launched next week with an online ability for graduate students and alumni to get online and chat. This will be circulated out to graduate students.

V. NEW BUSINESS

- a) Dr. David Skalnik presented the IUPUI 2019 Enrollment Report. The complete report is posted on the Graduate School website.
(<http://www.purdue.edu/gradschool/faculty/enrollment.html>)

VI. OLD BUSINESS

- a) Dr. James Mohler noted that Dean Linda Mason wants the Council to think about the somewhat robotic process by which the Council does voting when meeting monthly.

It is an important process by the Council; however, there may be a more efficient way to vote, particularly online. Tina Payne is looking at Curriculog to facilitate online voting. Dr. Mohler noted that we want to be able to retain the ability to bring proposals forward to the Council for discussion if someone should have concerns. We also want to be efficient in that we would like to use the time for discussions that might generate something that we alone would not be able to create. Dean Mason would like to have theoretical teaching discussions during the Council meeting by freeing up the voting time by creating this opportunity.

- b) Ms. Tina Payne gave an update on the electronic Graduate Council voting process with Curriculog. Tina noted that in Curriculog, this process is called, the “Agenda Feature”. All area committee members will view it in the “Agenda” section. This will be a place to share what is on the meeting agenda and other details about the meeting. Area committee members will make a decision to share with the Agenda Administrator (chair). The Agenda Administrator is the only one who can give the ultimate decision for the proposal. Comments will also be collected. The information will be provided to the Agenda Administrator for the final decision.

Ms. Payne noted that once the appropriate Area Committee has approved a proposal, it will advance to the next committee, which is the **Graduate Council Full Committee**. Each voting council member will be a member of this committee. This committee is set up in the same manner, only each council member will be casting a vote to approve or reject on every document that has been approved by the Agenda Administrators for the area committees. The voting will work in the same manner that the meeting votes have in the past. A Quorum will be determined and a majority vote will approve the proposal.

Ms. Payne noted that Dean Mason would like for all discussions regarding the documents to be held prior to the council vote. In order for this to happen, each council member needs to know what is in review so that they can comment to the chair of any committee when they see an issue with a particular proposal that is not with their area committee. That way all issues are worked out before the final vote. Debbie Fellure sends out a list of all documents in review each month. Let Debbie know if there is a proposal that is not going to an area committee that the chair would like to take a look at.

Ms. Payne noted that there will be some documents come through that were submitted with the old form that did not include this council process. These will be voted on in the usual manner until all of the older proposals have gone through the council. We will be following this new process very carefully and will assist whenever needed. As always, the council’s input is welcome on these processes.

VII. CLOSING REMARKS AND ADJOURNMENT

The council meeting was adjourned by Dr. Mohler at 2:31 p.m.

James L. Mohler, Deputy Chair
Tina L. Payne, Secretary

APPENDIX A

PENDING DOCUMENTS

(October 2019)

BOLDED ITEMS ARE IN REVIEW WITH AN AREA COMMITTEE

Area Committee A, Behavioral Sciences (Signe Kastberg; chair, skastber@purdue.edu):

*Graduate Council Document 19-6b, **EDCI 62500, Individualized Competency Earning in Learning Design & Technology** (PWL) Sem. 1 and 2. SS. Distance. Credit 1.*

*Graduate Council Document 19-59a, **EDPS 61801, Intellectual & Neuropsychological Assessment** (PWL) Sem. 1 and 2. SS. Distance. Credit 4. Prerequisites: EDPS 53300. B- equals the lowest passing grade.*

*Graduate Council Document 19-44a, **PSY 51300, Introduction To Computational Cognitive Neuroscience** (PWL) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.*

*Graduate Council Document 19-44d, **PSY 51500, Neuroscience Of Consciousness** (PWL) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.*

*Graduate Council Document 19-44b, **PSY 61501, Systems and Behavioral Neuroscience** (PWL) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Laboratory 1 time per week for 50 minutes. Credit 4.*

*Graduate Council Document 19-44c, **PSY 62101, Genes, Brain And Behavior** (PWL) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.*

*Graduate Council Document 19-52a, **TCM 51000, Effective Workplace Technical Communication** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Distance. Credit 3.*

Area Committee B, Engineering, Sciences, and Technology (Samuel P. Midkiff, chair; smidkiff@purdue.edu):

*Graduate Council Document 19-54a, **AT 54700, Airline Revenue Management** (PWL) Sem. 1 and 2. SS. Lecture 1 times per week for 150 minutes. Credit 3.*

*Graduate Council Document 19-54b, **AT 60700, Aviation Applications of Bayesian Inference** (PWL) Sem. 1 and 2. SS. Lecture 3 times per week for 50 minutes. Credit 3. Prerequisites: **AT 50700 OR IT 50700 OR STAT 30100 OR STAT 50100 OR STAT 51100**. Permission of instructor required. Typically offered Fall Spring Summer.*

*Graduate Council Document 19-33b, **CE 59801, Breakthrough Thinking For Complex Challenges Engineering** (PWL) Sem. 1. Lecture 3 times per week for 150 minutes. Credit 3.*

*Graduate Council Document 19-42a, **CEM 53100, Facilities Engineering and Management** (PWL) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3.*

*Graduate Council Document 19-42b, **CEM 53200, Infrastructure Planning** (PWL) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3.*

*Graduate Council Document 19-45a, **CIT 52600, Applied Data Analytics** (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 100 minutes. Laboratory 1 time per week for 50 minutes. Credit 3. Prerequisites: **TECH 50700, B or above** required.*

Graduate Council Document 19-45b, CIT 54600, Mobile Computing And Application Technologies (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 100 minutes. Laboratory 1 time per week for 50 minutes. Credit 3. Prerequisites: CIT 27000, B grade or better.

Graduate Council Document 19-38a, CSCI 53200, Cloud Computing Systems (IUPUI) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3.

Graduate Council Document 19-15e, ECE 50800, Introduction To Visualization Techniques (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: One semester object oriented programming, one semester statistics or probability, one semester calculus (differential and integral).

Graduate Council Document 19-15f, ECE 52500, Introduction To Computer Graphics (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: MA26500 or equivalent, and good C/C++ programming skills.

Graduate Council Document 19-15b, ECE 53201, Power System Analysis (PNW) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: ECE 31100.

Graduate Council Document 19-15c, ECE 53500, Adaptive Signal Processing With Applications (PNW) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3.

Graduate Council Document 19-15d, ECE 55000, Computer Network Security (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: Undergraduate courses on programming, operating system, and computer networks.

Graduate Council Document 19-15e, ECE 56801, Digital Control Systems (PNW) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3.

Graduate Council Document 19-15a, ECE 61020 Operation of Modern Power Systems (PWL) Sem. 2. Lecture 3 times per week for 50 minutes. Credit 3.

Graduate Council Document 18-22a, IE 68500, Competitive Strategy (PWL) Sem. 2. Lecture 3 times per week for 50 minutes. Credit 3.

Graduate Council Document 19-48a, ITS 53000, Practical Deep Learning (PNW) Sem. 1 and 2. Lecture 1 time per week for 160 minutes. Credit 3. Prerequisites: ITS 52000 Applied Machine Learning or Intro to Machine Learning or equivalent/A statistics course with regression and probability/A programming course with Python or similar/Graduate, Professional or Senior Status.

Graduate Council Document 19-17b, ME 56802, Ceramic Materials (IUPUI) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes. Credit 3.

Graduate Council Document 19-17c, ME 59800, Mechanical Engineering Graduate Seminar (IUPUI) Sem. 1 and 2. SS. Lecture 1 time per week for 50 minutes. Credit 0.

Graduate Council Document 19-39d, MSE 58600, Experimental Characterization Of Advanced Composite Materials (PWL) Sem. 1. Lecture 1 time per week for 50 minutes. Laboratory 1 time per week for 150 minutes. Presentation 1 time per week for 50 minutes. Credit 3.

Graduate Council Document 19-39c, MSE 67000, Atomistic View of Materials: Theory, Modeling And Simulations (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3. Prerequisites: BS degree in materials, mechanical, chemical, electrical or aerospace engineering or in physics or chemistry.

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

Graduate Council Document 19-46a, PHYS 52301, Nanosystems Principles (IUPUI) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: Graduate students - enrolled in engineering or science graduate degree program or instructor consent: Undergraduate students - senior standing in engineering or science degree program or instructor consent.

Graduate Council Document 19-46b, PHYS 52601, Integrated Nanosystems Processes and Devices (IUPUI) Sem. 2. Lecture 1 time per week for 75 minutes for 13 weeks. Laboratory 1 time per week for 75 minutes for 13 weeks. Credit 3. Prerequisites: PHYS 52301.

Area Committee D, Humanities and Social Sciences (Manushag (Nush) Powell, chair; mnpowell@purdue.edu):

Graduate Council Document 19-56a, ILS 63000, Digital Humanities Foundations (PWL) Sem. 1 and 2. Lecture 1 time per week for 100 minutes and Laboratory 1 time per week for 50 minutes. Credit 3.

Graduate Council Document 19-56b, ILS 63100, Digital and Analog Archives (PWL) Sem. 1 and 2. Lecture 1 time per week for 100 minutes and Laboratory 1 time per week for 50 minutes. Credit 3.

Graduate Council Document 19-2e, ENGL 60511, Editing and Publishing (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 200 minutes for 8 weeks. Recitation 1 time per week for 100 minutes for 8 weeks. Credit 3.

Graduate Council Document 19-2f, ENGL 60611, Technical Communication (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 200 minutes for 8 weeks. Recitation 1 time per week for 100 minutes for 8 weeks. Credit 3.

Graduate Council Document 19-2g, ENGL 60711, Designing Documents, Interfaces, And Graphics (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 200 minutes for 8 weeks. Recitation 1 time per week for 100 minutes for 8 weeks. Credit 3.

Graduate Council Document 19-2h, ENGL 60811, Entrepreneurship Communication (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 200 minutes for 8 weeks. Recitation 1 time per week for 100 minutes for 8 weeks. Credit 3.

Graduate Council Document 19-2i, ENGL 60911, Users Experience And Design Thinking (PWL) Sem. 1 and 2. SS. Lecture 1 time per week for 200 minutes for 8 weeks. Recitation 1 time per week for 100 minutes for 8 weeks. Credit 3.

Graduate Council Document 19-47a, LING 50100, Language Acquisition (PWL) Sem. 2. Lecture 3 times per week for 50 minutes. Recitation. Credit 3. Prerequisites: LING 20100 or ENG 22700 or LC 26100 or SLHS 22700 is required for undergraduate students.

Area Committee E: Life Sciences, (Ryan A. Cabot, chair; rcabot@purdue.edu):

Graduate Council Document 19-58a, BIOL 57601, Bioinformatics (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisite: BIOL 24400.

Graduate Council Document 19-58b, BIOL 57701, Ecology of Microorganisms (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisite: BIOL 31600.

Graduate Council Document 19-35a, CPB 63500, Advanced Veterinary Diagnostic Microbiology (PWL) Sem. 1 and 2. SS. Individual Study. Variable Credit 0.00 to 8.00. Prerequisite: DVM degree/ or Equivalent. Permission of instructor required.

Graduate Council Document 19-35b, CPB 63600, Veterinary Microbiology Seminar (PWL) Sem. 1 and 2. SS. Individual Study. Variable Credit 0.00 to 8.00.

Graduate Council Document 19-40a, HORT 53000, Introduction To Computing For Biologists (PWL) Sem. 2. Lecture 1 time per week for 75 minutes. Laboratory 1 time per week for 100 minutes. Independent Study 1 time per week for 100 minutes. Credit 3.

Graduate Council Document 19-40b, HORT 53100, Applied Plant Genomics (PWL) Sem. 1. Lecture 1 time per week for 50 minutes. Laboratory 1 time per week for 100 minutes. Credit 2.

Graduate Council Document 19-49a, MUSC 50000, Intensive Introduction To Music Therapy Practice (PFW) Sem. SS. Lab 5 times per week for 400 minutes for 1 week and Distance. Credit 4.

Graduate Council Document 19-49b, MUSC 50500, Methods of Music Therapy I (PFW) Sem. 1. Lecture 3 times per week for 400 minutes for 1 week and Distance. Credit 2.

Graduate Council Document 19-49c, MUSC 50800, Methods of Music Therapy II (PFW) Sem. 2. Lecture 3 times per week for 400 minutes for 1 week and Distance. Credit 2.

Graduate Council Document 19-49d, MUSC 51000, Music Therapy In Medicine & Healthcare (PFW) Sem. 2. Lecture 3 times per week for 400 minutes for 1 week and Distance. Credit 2.

Graduate Council Document 19-49e, MUSC 51500, Clinical Practice In Music Therapy (PFW) Sem. 1 and 2. SS. Clinical 1 time per week for 200 minutes for 1 week for 15 weeks. Credit 2.

Graduate Council Document 19-49f, MUSC 51800, Topics In Music Therapy Ethics (PFW) Sem. 1. Distance. Credit 2.

Graduate Council Document 19-49g, MUSC 52000, Music Psychotherapy (PFW) Sem. SS. Distance. Credit 2.

Graduate Council Document 19-49m, MUSC 52500, Theories And Approaches In Music Therapy (PFW) Sem. 1 and 2. Lecture 3 times per week for 400 minutes for 1 week and Distance. Credit 3.

Graduate Council Document 19-49h, MUSC 53000, Music Therapy Research I (PFW) Sem. 1. Lecture 3 times per week for 400 minutes for 1 week and Distance. Credit 3.

Graduate Council Document 19-49i, MUSC 53500, Music Therapy Research II (PFW) Sem. 1. Lecture 3 times per week for 400 minutes for 1 week and Distance. Credit 2.

Graduate Council Document 19-49j, MUSC 54000, Intensive Music Therapy Practicum (PFW) Sem. SS. Lab 2 times per week for 250 minutes for 6 weeks. Credit 2.

Graduate Council Document 19-49n, MUSC 54100, Music Therapy and Child Development (PFW) Sem. 1. Lecture 2 times per week for 400 minutes for 1 week. Distance. Credit 2.

Graduate Council Document 19-49k, MUSC 54300, Advanced Practice I: Infants, Children, & Adolescents (PFW) Sem. 1. Lab 1 time per week for 200 minutes for 15 weeks. Credit 2.

Graduate Council Document 19-49o, MUSC 54400, Special Topics In Music Medicine (PFW) Sem. 1. Lecture 3 times per week for 400 minutes for 1 week. Distance. Credit 2.

Graduate Council Document 19-49L, MUSC 54500, Advanced Practice II: Integrative Medicine (PFW) Sem. 1. Lab 1 time per week for 200 minutes for 15 weeks. Credit 2.

Graduate Council Document 19-49p, MUSC 54800, Music Therapy Clinical Internship (PFW) Sem. 1 and 2. SS. Practice Study Observation 5 times per week for 400 minutes for 26 weeks. Credit 1.

Graduate Council Document 19-41a, NUR 50310, Advanced Health Assessment For Nurse Educators (PNW) Sem. 1 and 2. SS. Lecture and Laboratory (2 credits lecture and 1 credit lab) offered via distance. Distance = 214 minutes per week/Asynchronous/7wks per term and LAB = 385 minutes per week/asynchronous/7weeks per term. (3:1 ratio). Credit 3. Prerequisites: NUR 50100.

Graduate Council Document 19-41b, NUR 50710, Pathophysiologic Concepts And Pharmacologic Interventions For Nurse Educators (PNW) Sem. 1 and 2. SS. Distance = 321 minutes per week/ Asynchronous/7 weeks per term. Credit 3. Prerequisites: NUR 50100.

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

Graduate Council Document 19-55a, ECON 63800, Advanced Topics In International Trade (PWL) Sem. 1 and 2. Lecture (2 credits) 2 times per week for 90 minutes for 8 weeks *or* 1 time per week for 180 minutes for 8 weeks. Lecture (3 credits) 3 times per week for 90 weeks for 8 weeks *or*

1 meeting per week for 270 minutes for 8 weeks. Variable Credit 1 to 3. Prerequisites: ECON 60700.

Graduate Council Document 19-18e, MGMT 56900, Ethical and Sustainable Supply Chain Management (PWL) Sem. 2. Lecture (2 credits) 2 times per week for 90 minutes for 8 weeks or (3 credits) 3 times per week for 90 minutes for 8 weeks or Distance or Lecture and Distance (2 or 3 credits, Distance – part bearing credit). Credit 2 or 3.

Graduate Council Document 19-18d, MGMT 69500, MBA Assessment (PNW)

Sem. 1 and 2. SS. Lecture and Lab. Credit 0.

Graduate Council Document 19-18f, MGMT 69700, MBA Internship (PNW) Sem. 1 and 2. SS. Independent Study. Credit 0.

Graduate Council Document 19-50a, OBHR 54100, Leading Management of Diversity and Inclusion in Organizations (PWL) Sem. 1 and 2. Lecture (2 credits) 2 times per week for 90 minutes for 8 weeks or Lecture (3 credits) 3 times per week for 90 minutes for 8 weeks. Distance. Credit 2 or 3.

Graduate Council Document 19-50b, OBHR 54200, Leading Management of Diversity and Inclusion in Organizations (PWL) Sem. 2. Lecture (2 credits) 2 times per week for 90 minutes for 8 weeks or Lecture (3 credits) 3 times per week for 90 minutes for 8 weeks. Distance. Credit 2 or 3.

Graduate Council Document 19-43a, STAT 51800, Introduction To Statistical Learning (PFW) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: STAT 51600, STAT 51200, and Programming using R is expected. (Students should have plenty of experience of R programming in STAT 51200).

NEW DOCUMENTS RECEIVED

(After the October 17, 2019 Graduate Council Meeting)

Area Committee A, Behavioral Sciences (Signe Kastberg; chair, skastber@purdue.edu):

Graduate Council Document 19-6e, EDCI 54501, Teaching STEM Through Agriculture, Food, and Natural Resources (PWL) Sem. 2. Lecture 2 time per week for 100 minutes per meeting. Laboratory 1 time per week for 100 minutes per meeting. Credit 3.

The course focuses on the background and history of STEM movement and agricultural education, contemporary models, strategies, and justification for incorporation of science, technology, engineering and mathematics (STEM) concepts and practices into K-12 formal and non-formal agricultural education programs. Consider and develop the best practices for STEM teaching and learning and enhancement of STEM content in agriculture, food and natural resources (AFNR) context. The goal of the course is to help students develop knowledge about STEM integration and equip them with teaching knowledge and skills for designing K-12 lesson plans by using integrated STEM through AFNR. Students will learn strategies that promote engagement in integrated STEM through AFNR activities. At the end of the course, students should be able to design and implement research-based integrated STEM through AFNR lesson plans and assessment plans.

Area Committee B, Engineering, Sciences, and Technology (Samuel P. Midkiff, chair; smidkiff@purdue.edu):

Graduate Council Document 19-62a, CNIT 52300, File Systems Forensics (PWL) Sem. 1. Lecture 1 time per week for 100 minutes per meeting. Laboratory 1 time per week for 100 minutes per meeting. Credit 3. Prerequisites: CNIT 42000 or CNIT 55600.

The plethora of strategies to store information in different formats continues to expand. This course examines the various media and strategies of storing information and the processes of documenting the collection, imaging, and processing of forensic evidence. Topics include file formats, file systems, hardware, and software involved in forensic investigation. The overall pattern of forensic evidence in file systems will be examined along with the acquisition, analysis, and reporting of evidence artifacts found in file systems

Graduate Council Document 19-62b, CNIT 52500, Mobile and Embedded Device Forensics (PWL) Sem. 1. Lecture 1 time per week for 100 minutes per meeting. Laboratory 1 time per week for 100 minutes per meeting. Credit 3. Prerequisites: CNIT 55600.

Consumer technologies are rapidly moving forward with items integrating processing, storage, and transmission into their base functionality. The enterprise issues with the trend of “bring your own device” has rapidly expanded requirements on forensics investigators to address a plethora of mobile device types. Whether it is the automobile black box or a home thermostat, there are various elements of interesting evidence possible to be gained. The embedded and consumer device pantheon is developing as an important area of forensic science. This course explores techniques for conducting forensic analyses on a wide variety of mobile and embedded devices.

Graduate Council Document 19-64a, CS 58300, Big Data Analytics in Cloud Computing (PFW) Sem. 1 and 2. Lecture 1 time per week for 165 minutes per meeting. Credit 3.

This course brings together the principles of large-scale distributed computing and the state of the art for Big Data Analytics in the Cloud. This course will first overview Cloud computing which is a service model for large-scale distributed computing, and the representative platform, Hadoop. Then, the course will introduce MapReduce which is a scalable programming model for processing Big Data on a cluster and have in-depth analysis of various algorithmic design patterns, and go on to explore Big Data Analytics applications on Hadoop MapReduce and Spark. Afterwards, the course will introduce NoSQL systems for Big Data storage. This course will also show how to deal with services from public cloud infrastructures.

Graduate Council Document 19-38c, CSCI 52500, Parallel Computing (IUPUI) Sem. 2. Lecture 2 times per week for 75 minutes per meeting. Credit 3. Prerequisites: CSCI 40200 and some programming experience with C or a similar programming language.

Parallel computing for science and engineering applications: parallel programming and performance evaluation, parallel libraries and problem-solving environments, models of parallel computing and run-time support systems, and selected applications.

Graduate Council Document 19-38d, CSCI 57500, Computer Systems Security (IUPUI) Sem. 1. Lecture 2 times per week for 75 minutes per meeting. Credit 3.

This course aims at explaining how to build systems to remain dependable in the face of malice, error, or mischance. The course focuses on the tools, processes, and methods needed to design, implement, and test complete systems, and to adapt existing systems as their environment evolves. The course builds on students’ prior foundation from studies in computer security, networks, operating systems and computer architecture. Material covered in the class will include some concepts from several textbooks and research papers. The course is highly interactive, based on class discussions. An important part of the course will be dedicated to improving research skills, such as writing papers and preparing presentations.

Graduate Council Document 19-15g, ECE 56810, Design with Embedded Systems (IUPUI) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes per meeting. Credit 3. Prerequisites: ECE 36200 Microprocessor Systems and Interfacing, Prerequisite by topic: Basic knowledge of digital systems equivalent to a course in digital logic and microprocessor architecture. Familiarity with C language.

This course provides an overview of the architectures, design considerations, features and applications of embedded processors with digital signal processing capabilities. The course emphasizes design consideration for embedded systems. Different applications such as Internet of Things, Voiceover IP, Machine to Machine, Wearable Devices, Smart Homes, Medical Devices, Drones and Wireless Systems, are considered.

Graduate Council Document 19-61a, ENGT 58300, Applied Engineering Statistics for Industry (PWL) (PFW) Sem. 1 and 2. SS. Individual Study and Distance. Credit 3.

The purpose of this course is to teach the practitioner how to use and make better informed decisions as a manager for making optimum process, business, or personnel decisions. Emphasis will be placed on Verification, Validation in R&D, Manufacturing, QA/QC, basic probability, Summarizing Data, Basic Tools (flowcharts, fishbone diagrams, Pareto charts), Process Capability - Cp/Cpk. Upper and lower control limits/charts, Use of Control Charts for Continual Improvement, Six Sigma, Design of Experiments, Taguchi Methodology and Data Analytics will also be covered. Typically offered Fall Spring Summer.

Graduate Council Document 19-17d, ME 59100, Mechanical Engineering Project (IUPUI) Sem. 1 and 2. SS. Individual Study 1 time per week for 50 – 150 minutes per meeting. Variable Credit 1 to 3. Prerequisites: Graduate standing.

Individual advanced study in various fields of mechanical engineering. May be repeated for up to 6 credit hours. Students registered for this course must have weekly meeting with the instructor for at least an hour.

Graduate Council Document 19-65a, MSTE 57200, Vehicle Dynamics, (IUPUI) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: Graduate standing or MSTE 21000 and ME 27000.

Vehicle dynamics is the study of behavior of vehicles in motion. The study is one of the most important activities in the Vehicle design and development cycle to design vehicles which drive well and are comfortable to ride in. The course focuses on the development of advanced mathematical engineering models that represent the behavior of automotive vehicles and vehicle subsystems. Topical emphasis is focused on rectilinear performance, steady state handling behavior, tire models and suspension models.

Graduate Council Document 19-65b, MSTE 57400, Advanced Vehicle Dynamics, (IUPUI) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: MSTE 57200.

An investigation into advanced topics in the field of vehicle dynamics. This course covers the principles and applications of vehicle handling dynamics from an advanced perspective in depth. The methods required to analyze and optimize vehicle handling dynamics are presented, including tire compound dynamics, vehicle planar dynamics, vehicle roll dynamics, full vehicle dynamics, and in-wheel motor vehicle dynamics. The provided vehicle dynamic model is capable of investigating drift, sliding, and other over-limit vehicle maneuvers. This is an ideal course for postgraduate and research students and engineers in motorsports, mechanical, automotive, transportation, and ground vehicle engineering.

Graduate Council Document 19-65c, MSTE 58200, Motorsports Aerodynamics, (IUPUI) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: Graduate standing or ME 31000 (Fluids), ME 20000 (Thermo), and MSTE 35000 (Advanced CAD).

The study and adaptation of fluid flow and aerodynamics as applied to motorsports design and performance optimization. This course is designed to reinforce student's understanding of aerodynamics as it pertains to a race car. This course breaks down the differences between actual air flow while driving / racing versus air flow within a wind tunnel, and how these flows are different. It

discusses how to evaluate those flows, and determine if they need to be improved. It discusses ways to improve the aero on race cars.

Graduate Council Document 19-65d, MSTE 58400, Advanced Motorsports Aerodynamics, (IUPUI) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: MSTE 58200.

This advanced course is designed to adapt the secrets of the rapidly developing field of high-speed vehicle design. From F1 to Indy Car, Advanced drag simulation and Sedan racing, this course provides clear advanced explanations for students and engineers who want to improve their design skills and to interpret how their favorite race cars aerodynamics is designed. It differentiates how aerodynamics win races, why downforce is more important than streamlining and drag reduction, designing wings and venturis, plus wind tunnel designs and more. Appraises the development process of advanced motorsports aerodynamics engineering. Extensive use of CFD in the development of race car aerodynamics.

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

Graduate Council Document 19-11b, BME 51100, Biomedical Signal Processing (PWL) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: ECE 30100 for Undergrad.

An introductions to the application of digital signal processing to practical problems involving biomedical signals and systems. Topics include: overview of biomedical signals; filtering to remove artifacts; event detection; analysis of waveshape and waveform complexity; frequency domain characterization; modeling biomedical signal-generating systems; analysis of non-stationary signals; pattern classification and diagnostic decisions, MATLAB is used throughout to apply the theory and techniques discussed to biomedical signals..

Graduate Council Document 19-11c, BME 68300, Polymers In Biomedical and Pharmaceutical Systems (PWL) Sem. 1 and 2. SS. Lecture 2 times per week for 170 minutes for 10 weeks. Credit 3.

This course is designed to provide backgrounds in basic polymer chemistry, synthesis, characterization, solution properties, and recent advances in polymers for applications in drug delivery, biomedical devices, tissue engineering, biotechnology, and nanotechnology. Typically offered Fall Spring.

Area Committee D, Humanities and Social Sciences (Manushag (Nush) Powell, chair; mnpowell@purdue.edu):

Graduate Council Document 19-32b, COM 64400, Strategic Personal Branding (PWL) Sem. 1 and 2. SS. Distance. Credit 3.

This graduate course will examine the theories and processes of personal brand development and self-marketing. The course will examine best practices, trends, and creative strategies used in contemporary personal branding. An emphasis will be placed on experiential learning, self-awareness, image and perceptual management, career development, self-promotion, brainstorming, and effective communication.

Graduate Council Document 19-2j, ENGL 51402, Using Poems To Beat Death (Finding Poetry To Live) (PFW) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes. Credit 3.

This course will provide an exploration and examination into poetics and its relationship with performance. It's said that public speaking is the number one fear, even before death. With that in mind, students will learn to use their voice and represent their voice through performance/oral

renditions of their individual work, and work that they choose to use that speaks to them. Students will view, read, analyze, and discuss, as well as explore the structural, figurative, and literary devices of poetic language, while at the same time redefining the common rules of verse as a foundation for performance. We will investigate and reinforce the “everyday” poetry happening around us, which goes unnoticed. We will study some traditional poetic forms and contemporary works, which will often be performed, produce pieces which integrate more than one artistic discipline, and develop a critical vocabulary.

Graduate Council Document 19-47b, LING 59002, Semantics (PFW) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: LING 10300 or LING 30300 or permission of instructor.

We will cover key aspects of formal semantics and then various alternative, cognitive approaches. Topics include Lakoff’s Conceptual Metaphor theory, Langacker’s Cognitive Grammar, Goldberg’s Construction Grammar, salience, construal, and embodiment. Students also complete additional readings of their choice, report on these to the class, and create an annotated bibliography. Emphasis will be “the big picture”: What assumptions lie behind these differing approaches, to what degree should we accept these assumptions, and how do the approaches contrast with and/or complement each other?

Area Committee E: Life Sciences, (Ryan A. Cabot, chair; rcabot@purdue.edu):

Graduate Council Document 19-49q, MUSC 55000, Music Therapy Thesis or Clinical Project (PFW) Sem. 1 and 2. SS. Research. Variable Credit 1 to 3.

A culminating thesis or clinical project completed in independent study format with intensive faculty guidance. Includes learning contract, review of literature, research or clinical project development and implementation, and preparation of final report, with feedback and support given by a thesis or clinical project committee.

Graduate Council Document 19-49r, MUSC 56500, Contemporary Issues In Music Education (PFW) Sem. SS. Lecture 5 times per week for 210 minutes for 2 weeks. Credit 3.

Designed to examine contemporary trends and issues in music education. Topics will include concepts in assessment, community music, historical context of music education, methods and approaches to teaching, music literature selection, philosophy, socio-cultural phenomena, and technology.