

**PURDUE UNIVERSITY
GRADUATE SCHOOL**

Minutes of the Graduate Council Meeting
April 19, 2018
1:30 p.m.

Seventh Meeting
Room 214CD
STEW

PRESENT: Linda J. Mason, interim chair; Council Members, Thomas W. Atkinson, Natalie J. Carroll, Kuan-Chou Chen, David S. Cochran, William (Bart) Collins, Joy L. Colwell, Marius D. Dadarlat (Vincent) Jo Davisson, Melissa M. Franks, Signe E. Kastberg, David B. Klenosky, Maricel A. Lawrence, Michael C. Loui, Marcela Martinez, Samuel P. Midkiff, James L. Mohler, Melanie Morgan, Manushag (Nush) Powell, Jerry P. Ross, Paul Salama, David G. Skalnik, Mitch Springer, Carol S. Sternberger, Jun Xie, Yan Ping Xin

APOLOGIES FOR ABSENCE RECEIVED FROM: Michael J. Connolly, Brian R. Dineen, Lucy M. Flesch, Jonathan M. Harbor, Takashi Hibiki, Mary E. Johnson, Nancy Pelaez, Rhonda G. Phillips, Candiss B. Vibbert (Provost's Representative), Mohammad Zahraee

ABSENCES: Christopher R. Agnew, Janice S. Blum, Rita Burrell, Ryan A. Cabot, Carlos M. Corvalan, Susan M. Mendrysa, Steven F. Son, Chong Xiang,

GUESTS: Pam Aaltonen, Debbie Fellure, Cesare Guariniello, Susan Kersey, Kshitij Mall, Justin Mansell, Brittany Wright

I. MINUTES

The minutes of the March 22, 2018, Graduate Council meeting were approved as presented.

II. DEANS REMARKS AND REPORTS

- a) Dr. Linda Mason noted that we anticipate growth in certificates and online programs as we see where graduate education is going. Dr. Mason noted that the Graduate School will be looking at how we can reapportion the work more evenly for the Graduate Council area committees, yet keep it true to the disciplines. We will look at possibly adding additional members to the council to handle the additional proposals. Dr. Mason noted that we will be spending the summer looking at all possible options and present models to the council next Fall.

Dr. Mason discussed how the Graduate School manages Professional Development. Last year Professional Development presented 84 workshops and this year 181 workshops were presented. There were 2,765 registrations

for workshops last year and 4,462 registrations this year. Dr. Mason noted that we are excited about the type of programming and the number of opportunities that are being offered to the students.

Dr. Mason noted that the Three Minute Thesis (3MT) and the Say It In 6 competitions were held on Tuesday, April 17, 2018. She also shared that the Graduate Student Mentoring and Post Doc awards had been presented to the recipients.

- b) Dr. James Mohler gave a report on pending degree program proposals in various stages of review and approval.
- c) Dr. James Mohler gave a report on pending course proposals in review with the Graduate Council area committees, proposals awaiting additional information from proposers, course proposals requested by departments for removal, and new course proposals received since the previous Graduate Council meeting.

III. AREA COMMITTEE REPORTS (Area Committee Chairs)

Graduate Council Document 18E, Graduate Council Documents Recommended for Approval:

Area Committee A, Behavioral Sciences (Yan Ping Xin, yxin@purdue.edu):

Graduate Council Document 18-7a, CSR 50300, Transitional Health Disparities: Research, Practice, and Policy (PWL)

Graduate Council Document 17-43a, CSR 60300, Advanced Writing for Consumer and Public Health (PWL)

Graduate Council Document 17-48a, ENGT 50700, Fundamentals of Collaborative Leadership and Agile Strategy for Engineering Technology (PWL)

Dr. Yan Ping Xin presented three courses for consideration. The courses were approved by the council, upon a motion by Dr. Xin.

Area Committee C, Engineering, Chemistry, and Physical Sciences (Lucy Flesch, lmflesch@purdue.edu):

Graduate Council Document 18-10b, AAE 54500, Dynamic Behavior of Materials (PWL)

Graduate Council Document 18-10a, AAE 54800, Mechanical Behavior of Aerospace Materials (PWL)

Graduate Council Document 18-10c, AAE 64800, Modeling Damage and Strengthening Mechanisms in Materials (PWL)

Graduate Council Document 18-4c, BME 56100, Preclinical and Clinical Study Design (PWL)

Due to the absence of Chair, Dr. Lucy Flesch, Dr. Paul Salama presented four courses for consideration. The courses were approved by the council, upon a motion by Dr. Salama.

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

Graduate Council Document 18-12a, ANTH 63000, Academic Professional Development (PWL)

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

Area Committee E, Life Sciences (Natalie J. Carroll, chair; ncarroll@purdue.edu):

Graduate Council Document 18-13a, AGRY 64100, Statistical Hydrology (PWL)

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

GRADUATE CERTIFICATE(S):

Area Committee E, Life Sciences (Natalie J. Carroll, chair; ncarroll@purdue.edu):

Graduate Council Document 18-25a, Graduate Certificate in Post MS Psychiatric Mental Health Nurse Practitioner submitted by the School of Nursing, PWL

Dr. Natalie Carroll presented one certificate for consideration. The certificate was approved by the council, upon a motion by Dr. Carroll.

IV. PRESENTATION

Three members of the Boilers2Mars team, Cesare Guariniello, crew geologist and a Purdue Alumnus; Kshitij Mall, executive officer and a doctoral student in aeronautics and astronautics; and Justin Mansell, crew journalist and doctoral student in aeronautics and astronautics, gave a presentation on the mission to the Mars Desert Research Station in Utah. The seven-member team took command of the research station on December 30, 2017, through January 14, 2018. The desert research station included a small two-story habitat, an astronomical observatory, and a scientific laboratory and a greenhouse. The crew members wore sealed space suits whenever leaving the station for outside work.

In addition to their own experiments, the Boilers2Mars team performed tests on new space suits used in extra-vehicular activities during the simulation mission, as well as, some medical procedures.

Was there anything to link on our council page on the website? You could add this as the last sentence.

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

Ms. Marcela Martinez, outgoing President of the Purdue Graduate Student Government (PGSG) introduced the new PGSG President, Mr. Taylor Bailey.

Mr. Bailey presented the Graduate Student Bill of Rights and Responsibilities (Appendix B). Mr. Bailey noted that the fundamental purpose of the document is not meant to serve as policy and it is not meant to serve as a document to defend bad behavior. Mr. Bailey noted that it is the hope that this document is to inform students of a collective subset of agreed upon best practices, to make sure that students are informed and to make sure that their needs are met. It is to create the space that if there is a problem or if something needs to change, this gives the space for students to ask questions and try to take steps to make sure that they are not being exploited in a way that is unhealthy or in a way that is negative to their overall degree progress.

Mr. Bailey noted that what it says in the introduction is his belief that everything in graduate education is better if we are striving for an environment of mutual success. If students are taken care of and have what they need to be successful, it reflects positively on faculty members and vice versa. If everyone is working together there is a happy and successful outcome.

Following a discussion of overall concern within the council about the word – “right” or a “bill of rights”, a motion was made and approved by the council to table this until the document can be reviewed by Trenton Klingerman, Assistant Legal Counsel and Chief Privacy Officer as to whether is legally binding. If Mr. Klingerman states that the document is not legally binding, it will be presented to the Council again in the fall for reconsideration.

VI. OLD BUSINESS

- a) Dr. James Mohler presented a revised copy of the Guidelines for Service on Graduate Degree Committees. The revised copy will be posted on SharePoint.
- b) Dr. James Mohler noted that at the end of the March meeting Dr. Tom Atkinson spoke about the English Proficiency for non-degree applicants. Questions were raised whether we had a quorum or not. In order to be in line with procedure, there was further discussion on the requirement. The English Proficiency for non-degree seeking students was approved by the council, upon a motion by Dr. Natalie Carroll.

VII. CLOSING REMARKS AND ADJOURNMENT

The council meeting was adjourned by Dr. Mason at 3:00 p.m.

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

APPENDIX A

PENDING DOCUMENTS

(April 19, 2018)

BOLDED ITEMS ARE IN REVIEW WITH AN AREA COMMITTEE

Area Committee A, Behavioral Sciences (Yan Ping Xin, chair: yxin@purdue.edu):

Graduate Council Document 18-20a, CIT 57800 Advanced Topics in Data Management (IUPUI)

Graduate Council Document 18-7a, CSR 60200, Transitional Health Disparities: Research, Practice, and Policy (PWL)

Graduate Council Document 17-43a, CSR 60300, Advanced Writing for Consumer and Public Health (PWL)

Graduate Council Document 18-16a, EDCI 60001, Intro to Demonstrating Professional Competencies in LDT (PWL)

Graduate Council Document 18-16b, EDCI 60002, Demonstrating Professional Competencies in LDT (PWL)

Graduate Council Document 18-16c, EDCI 60003, LDT Professional Competencies Portfolio (PWL)

Graduate Council Document 18-5a, EDPS 54700, Foundations and Principles of Behavior Analysis (PWL)

Graduate Council Document 18-5b, EDPS 54800, Ethics and Professional Practice of Applied Behavior Analysis (PWL)

Graduate Council Document 18-5c, EDPS 54900, Verbal Behavior and Social Communication (PWL)

Graduate Council Document 18-5d, EDPS 55000, Behavioral Consultation and Systems Change (PWL)

Graduate Council Document 18-5e, EDPS 55100, Intensive Practicum in Applied Behavior Analysis (PWL)

Graduate Council Document 18-5f, EDPS 60700, Mixed Methods Research Designs and Applications (PWL)

Graduate Council Document 17-48a, ENGT 50700, Fundamentals of Collaborative Leadership and Agile Strategy for Engineering Technology (PWL)

Graduate Council Document 18-17a, ITS 55300, Software Security & Secure Programming (PNW-Hammond)

Area Committee C, Engineering, Chemistry, and Physical Sciences (Lucy Flesch, chair: lmflesch@purdue.edu):

Graduate Council Document 18-10b, AAE 54500, Dynamic Behavior of Materials (PWL)

Graduate Council Document 18-10a, AAE 54800, Mechanical Behavior of Aerospace Materials (PWL)

Graduate Council Document 18-10c, AAE 64800, Modeling Damage and Strengthening Mechanisms in Materials (PWL)

Graduate Council Document 18-4c, BME 56100, Preclinical and Clinical Study Design (PWL)

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

Graduate Council Document 18-12a, ANTH 63000, Academic Professional Development (PWL)

Area Committee E: Life Sciences, Natalie J. Carroll, chair; ncarroll@purdue.edu):

Graduate Council Document 18-13a, AGRY 64100, Statistical Hydrology (PWL)

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

Graduate Council Document 17-11a, ECON 63300, Macroeconomics with Heterogeneous Agents (PWL)

Graduate Council Document 17-11b, ECON 64100, Computational Economics/Numerical Methods (PWL)

Graduate Council Document 17-11c, ECON 65300, Economics of Early Childhood and Skill Formation (PWL)

Graduate Council Document 17-11d, ECON 68100, Bayesian Econometrics I (PWL)

Graduate Council Document 17-11e, ECON 68200, Bayesian Econometrics II (PWL)

APPENDIX B

Introduction

The Graduate Student Bill of Rights and Responsibilities was drafted to serve as a guideline of agreed upon best practices and standards concerning the role of graduate students at Purdue University. While this document is neither exhaustive, nor is every clause representative of established university policy, it demonstrates the commitment to a set of fundamental norms and expectations with which graduate students, faculty, and staff can open dialogue and build a better graduate environment and ensure the best possible mutual success.

The Graduate Student Bill of Rights and Responsibilities shall inform all Purdue graduate students, irrespective of their roles as students, staff, or fellows, to ensure that their time at Purdue is both enjoyable and efficacious. The rights listed here promote the commitment of Purdue to the most fundamental principles of academic freedom, equal opportunity, inclusion and diversity, discovery and research, teaching, and learning. The responsibilities listed promote diligence from graduate students to actively engage in all levels of their graduate experience, both within their research and the greater community.

I. Purdue Graduate Student Rights

Article 1. Equal Educational Opportunity for Graduate Students

1. Graduate students have a right to be informed of the rights described in this document upon enrollment and to be free of reprisals for exercising rights afforded them.
2. Graduate students have the right to clear and specific written requirements for achieving an advanced degree upon admission into their graduate program including, but not limited to, course work, examinations, publication, and conference attendance. Information regarding time-to-degree, availability and administration of graduate student salary, and faculty placement options should also be open and accessible.
3. Graduate students have the right to reasonable and appropriate resources to successfully fulfill their research and academic obligations, acknowledging that the dynamic nature of research and availability of resources may sometimes require adaptation to alternative research approaches.
4. Graduate students have a right to respectful mentoring and advising relationships with faculty and all members of their graduate committee and to evaluation by their committee in accordance with fair procedures in matters of continuation within their program, based solely on the individual graduate student's academic and professional performance.
5. Graduate students have a right and should be encouraged to pursue academic and professional training that is relevant to their personal career path and that will make them competitive for their career goals after the completion of their program.

Graduate Student Bill of Rights and Responsibilities- Draft 8(TWB) 3.25.2018
PGSG Committee Chair: Mr. Taylor W. Bailey (pgsg.vp.relations@gmail.com)

6. Graduate students have a right to wellness resources, including programs for mental and physical well-being, to optimize their academic achievement and their contribution to the university overall.
7. Graduate students have the right to a clearly defined grievance procedure detailed within their graduate program's manual and to seek resolution without retaliation.

Article 2. Supportive and Constructive Workplace Environment for Graduate Staff

1. Graduate staff working as administrative, professional, research, and/or teaching assistants have the right to clear and specific written job descriptions, responsibilities, and benefits (such as vacation and sick leave) that come with their appointment. This notification should occur prior to the start of employment, and staff should be immediately informed in writing of changes.
2. Graduate staff members should understand the impact of their earnings on eligibility for student loans and salaries. Relevant university, college, department and/or graduate program resources, including human resources and business office staff, should be responsive to graduate student inquiries about their working conditions.
3. Graduate staff have a right to structured and specific training to ensure that they can meet the expectation of their appointment.
4. Graduate staff have the right to a competitive salary relative to their colleagues in comparable departments in peer institutions, standardized to cost of living for an individual who is renting housing in the Greater Lafayette area. Graduate salary levels should be evaluated on a triennial basis by colleges and departments. The process and rationale for outcomes of evaluations should be made available to the pertinent graduate staff members.
5. Graduate staff have a right to an accurate written description of the availability, sources, and conditions for the continuity of financial and resource support for a graduate staff appointment, and immediate notice of any changes impacting continued support. If the conditions for employment change, contract obligations by both parties should meet all obligations. Only if the graduate staff leaves the position prior to the Graduate Staff Employment Manual minimums, should any obligation of tuition repayment beyond the graduate staff fee be executed.
6. Graduate staff with a benefit eligible appointment have a right to health and family medical leave benefits and to participate in the process for changing benefit coverages, plans, and rates.
7. Graduate staff have the right to a clearly defined workplace grievance procedure detailed within their department's graduate program manual and to seek resolution without retaliation.

Graduate Student Bill of Rights and Responsibilities- Draft 8(TWB) 3.25.2018

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Article 3. Mentoring, Advising, and Performance Feedback

1. Graduate students have a right to request consultation on all aspects of their progress within their degree program. Graduate students should receive regular and constructive feedback and guidance concerning their performance on a mutually agreeable schedule from all members of their graduate committee. Requests for meetings by either party should be met in a timely fashion, and feedback should be provided in writing when requested.

2. Graduate students have the right to change their major professor(s) and the right to alternative supervision; however, this right should be exercised judiciously and with respect to the investments a faculty member makes when accepting a student. In cases where the student's major professor departs from the university after the student's coursework has begun, the graduate student should be informed of all options available to continue studying. If a graduate program is to be discontinued, provisions shall be made for students already in the program to complete their course of study.

3. Graduate students have a right to prompt notification of any concern of their major professor, graduate committee, department, or the university related to their performance that may jeopardize their continued participation in their graduate program. Graduate students have the right to receive a fair opportunity to improve performance and address deficiencies subject to a reasonable, mutually agreed upon set of guidelines and timetable.

4. Graduate students have a right to question and refuse tasks that would impede progress in completing their program or that are not immediately related to their academic or professional development, unless these tasks are explicitly established within the requirements of their program.

5. Graduate students have a right to full confidentiality in their communication with staff, faculty, and administrators, unless superseded by Title IX, FERPA, or other federal law.

Article 4. Research Contribution and Authorship

Graduate students have a right to fair treatment and attribution, including authorship, for significant contribution to ideas and work performed on faculty- or university-sponsored research. The norms and standards within the respective discipline or the implication of interdisciplinary research to authorship should be explicitly explained by the primary investigator and agreed upon by all participating researchers. Individual rights and responsibilities on research projects should be discussed as early as possible and communicated throughout the duration of the project, acknowledging that the dynamic nature of research may dictate transition of responsibilities or authorship positions once a project has been started.

Article 5. Participation in Governance

Graduate Student Bill of Rights and Responsibilities- Draft 8(TWB)3.25.2018
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1. Graduate students have the right to consultation in the decision-making process of all departments and graduate programs when graduate students may be affected.
2. Graduate students have the right to representation in all university committees where graduate students may be affected, with voting privileges when appropriate and without fear of retaliation for exercising this right,. Selection of graduate students to serve on university committees should be made in consultation with the Purdue Graduate Student Government.

II. Purdue Graduate Student Responsibilities

Article 1. Graduate Student Engagement with the University

1. Graduate students are responsible for understanding and carrying out the responsibilities that are described in this document and the implications to their time spent at the university.
2. Graduate students are responsible for fostering their own success. They should be diligent in carrying out their duties in a conscientious and timely manner, have the responsibility to inform the university of any changes or circumstances that would prevent them from carrying out these obligations, and do their best to ensure stability for other students, faculty, programs, and departments with whom and wherein they work.
3. Graduate students are responsible for maintaining active and professional communication with their major professor. They should inform their major professor immediately of special circumstances that may preclude completion of their work. These circumstances could include, but are not limited to, the unique nature of the research, dire financial situations, civic obligations, family obligations, and religious obligations.
4. Graduate students are responsible for attending class and completing all assignments in accordance with the expectations established by their instructors and requirements of their graduate programs.
5. Graduate students are responsible for taking the initiative in seeking information that promote their understanding of the academic requirements and the financial particulars of their graduate program and to be receptive of information and updates provided to them through multiple forms of communication, including Purdue e-mail.
6. Graduate students are responsible for informing the university of changes in address, phone number, enrollment status, or any other circumstance which could affect satisfactory progress in their program or financial aid and assistantship awards.
7. Graduate students are responsible for providing service to and actively participate in the governance of their program, their department, school or college, and the university community, and they should endeavor to contribute to the administration and ongoing improvement of their graduate program, the graduate student government, and the university.

Article 2. Purdue Graduate Staff Responsibilities

Graduate Student Bill of Rights and Responsibilities- Draft 8(TWB) 3.25.2018
PGSG Committee Chair: Mr. Taylor W. Bailey (pgsg.vp.relations@gmail.com)

1. Graduate staff are responsible for maintaining regular and open communication with their employer, to ensure mutual understanding of the expectations of their appointment, and to perform their duties as outlined and in accordance with institutional guidelines and policies.
2. Graduate staff with teaching appointments are responsible for upholding the highest level of academic integrity, professionalism, and diligence in their teaching practices.
3. Graduate staff with research appointments are responsible for upholding the highest levels of research integrity, consistent with the responsible conduct of research.
4. Graduate staff are responsible to understand their role and due diligence in fostering professional relationships with their advisors and university personnel.

III. Amendments to the Bill of Rights

Any amendments to the Graduate Student Bill of Rights and Responsibilities must receive endorsement from the Purdue Graduate Student Senate, the Graduate Council, and the University Senate.

NEW DOCUMENTS RECEIVED
(After the April 19, 2018 Graduate Council Meeting)

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

Graduate Council Document 18-37a, CSD 50500, Evidence-Based Practice in Speech-Language Pathology (PFW) Sem. SS. Lecture 4 times per week for 60 minutes for 6 weeks. Credit 2.

Emphasis on evaluating scientific evidence and the application of research findings to evidence-based practice.

Graduate Council Document 18-37b, CSD 51200, Critical Thinking in Clinical Practice I (PFW) Sem. 1. Lecture 1 time per week for 200 minutes. Credit 4.

Introduction to critical thinking in a clinical setting. Integration of course material from concurrent courses focused on child/developmental disorders with an emphasis on developing assessment and treatment skills using clinical simulations.

Graduate Council Document 18-37c, CSD 51300, Critical Thinking in Clinical Practice II (PFW) Sem. 2. Lecture 1 time per week for 200 minutes. Credit 4. Prerequisites: CSD 51200.

Further development of critical thinking in a clinical setting. Integration of course material from concurrent courses focused on adult/acquired disorders with an emphasis on developing assessment and treatment skills using clinical simulations.

Graduate Council Document 18-37d, CSD 51400, Critical Thinking in Clinical Practice III (PFW) Sem. 2. Lecture 1 time per week for 200 minutes. Credit 4. Prerequisites: CSD 51300.

Application of critical thinking skills to clinical practice with an emphasis on interprofessional practice in medical and school based speech-language pathology.

Graduate Council Document 18-37e, CSD 51500, Critical Thinking in Clinical Practice IV (PFW) Sem. 2. Lecture 1 time per week for 100 minutes. Credit 2. Prerequisites: CSD 51400.

Application of critical thinking skills to clinical practice with an emphasis on interprofessional practice in medical and school based speech-language pathology and effective supervision of support staff.

Graduate Council Document 18-37f, CSD 52300, Language Disorders in Children (PFW) Sem. 1. Lecture 1 time per week for 100 minutes. Credit 2.

Principles of description assessment and intervention for children with language disorders.

Graduate Council Document 18-37g, CSD 52600, Language and Literacy Disorders (PFW) Sem. 1. Lecture 1 time per week for 100 minutes. Credit 2.

Principles of description, assessment, and intervention for children with language disorders with an emphasis on the interaction of oral language and literacy.

Graduate Council Document 18-37h, CSD 52900, Stuttering: Nature, Diagnosis, and Treatment (PFW) Sem. 2. Lecture 1 time per week for 100 minutes. Credit 2.

Reviews applications of research findings and theoretical developments to our understanding of the onset, development, perpetuation, and amelioration of stuttering. Demonstrates and discusses methods and procedures for diagnosing and treating stuttering across the lifespan.

Graduate Council Document 18-37i, CSD 53100, Language and Cognitive Communication Disorders in Adults (PFW) Sem. 2. Lecture 1 time per week for 100 minutes. Credit 2.

Study of the causes, assessment, and treatment of acquired language and cognitive disorders in adults, including aphasia, right hemisphere disorder, traumatic brain injury, and dementia.

Graduate Council Document 18-37j, CSD 53200, Voice Disorders (PFW) Sem. 1. Distance. Credit 2.

Principles of differential diagnosis and clinical management for children and adults presenting voice disorders, based on a working knowledge of normal laryngeal structure and function.

Graduate Council Document 18-37k, CSD 53300, Medical Speech-Language Pathology (PFW) Sem. 2. Lecture 1 time per week for 100 minutes. Credit 2.

Introduces the graduate speech-language pathology student to issues encountered in the medical environment in preparation for a healthcare externship and a career in the healthcare setting. Topics will include collaborative models in the medical setting, clinical documentation, ethical issues, equipment and instrumentation, medications, among others.

Graduate Council Document 18-37L, CSD 53800, Motor Disorders of Speech (PFW) Sem. 2. Lecture 1 time per week for 100 minutes. Credit 2.

A study of the neuropathologies that affect the speech production system. Emphasizes the differential diagnosis and management of acquired motor speech disorders.

Graduate Council Document 18-37m, CSD 53900, Deglutition and Dysphagia (PFW) Sem. 2. Lecture 1 time per week for 100 minutes. Credit 2.

A study of the normal and disordered anatomy and physiology of the swallowing process. Principles of evaluation and treatment of dysphagia are discussed.

Graduate Council Document 18-37n, CSD 54000, Augmentative and Alternative Communication (PFW) Sem. SS. Lecture 4 times per week for 70 minutes for 6 weeks. Credit 2.

Introduction to augmentative and alternative communication. Cognitive, educational, physical, psycho-social, and linguistic aspects are considered together with symbol characteristics, teaching strategies, and research issues.

Graduate Council Document 18-37o, CSD 54300, Clinical Methods in Speech-Language Pathology (PFW) Sem. SS. Lecture 4 times per week for 70 minutes for 6 weeks. Credit 2.

Introduction to principles and procedures for the assessment and treatment of communication disorders including written documentation of clinical practice.

Graduate Council Document 18-37p, CSD 54400, School Based Speech-Language Pathology (PFW) Sem. 1. Lecture 1 time per week for 100 minutes. Credit 2.

Organization, materials, and methods for conducting speech, language, and hearing services in elementary and secondary schools.

Graduate Council Document 18-37q, CSD 54500, Licensure (PFW) Sem. 2. Distance. Credit 0.

Professional requirements for obtaining and maintaining credentials for clinical practice as a speech-language pathologist.

Graduate Council Document 18-37r, CSD 64800, Speech-Language Pathology Education Externship (PFW) Sem. 1 and 2. Lecture 1 time per week for 100 minutes. Variable Credit 4 or 5.

School-clinical experience to provide speech, language, and hearing services in elementary and secondary schools, under the supervision of a school clinician and university staff holding the ASHA Certificate of Clinical Competency.

Graduate Council Document 18-73s, CSD 64900, Speech-Language Pathology Education Externship (PFW) Sem. 1 and 2. Clinical. Variable Credit 4 or 5.

An advanced-level clinical practicum in speech and language disorders.

Graduate Council Document 18-19b, YDAE 58200, Introduction to the Application of Inferential Statistics (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.

The goal of this course is to introduce students to the use and application of statistics with a particular focus on descriptive and inferential analysis procedures. This course will also introduce students to the use of statistical software, namely the Statistical Package for the Social Science (SPSS).

Graduate Council Document 18-19c, YDAE 63000, Theories of Learning and Development (PWL) Sem. 1. Lecture 1 time per week for 150 minutes. Credit 3.

The goal of this course is to introduce students to a variety of theoretical perspectives of learning and development and how they may be used in both formal, informal and non-formal educational settings. This goal will be achieved through students' analysis of key concepts, assumptions, propositions and principles of four theoretical areas: (1) Foundational Learning Theory, (2) Student Development Theory, (3) Career & Workforce Development Theory and (4) Youth Development & Experiential Learning Theory. This course will also build on students' prior exposure to behaviorist, cognitive, and constructivist approaches of learning and development. In sum, many of the theories discussed in this course will provide students with a greater understanding of human thought and behavior that will help them become more effective educators, researchers and practitioners.

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

Graduate Council Document 18-23c, CS 50400, Mathematical Toolkit in CS (PWL) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: C or better in CS 38100 Introduction to the Analysis of Algorithms or equivalent.

The Mathematical Toolkit in CS provides an introduction to a large number of foundational topics in Mathematics and Computer Science. These topics endow students with technical tools to perform research in diverse fields of computer science, mathematics, and electrical engineering. This course covers topics in mathematical basics, balls and bins problems, concentration inequalities, probabilistic techniques, and (discrete) Fourier Analysis.

Graduate Council Document 18-33b, CNIT 53200, IT Enterprise Analysis (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For traditional graduate students, there is no course prerequisite other than being in good standing in a graduate program related to information technology. Accordingly, the course is open to graduate students in CIT (=CNIT), TECH, CS, CGT, and MGMT – other graduate programs by permission. For undergraduate students, CNIT 48000 and a GPA > 3.00. To be admitted to the professional graduate program, students must have an IT background either in work history or undergraduate education. In the professional graduate program, all students must first take the first course 'CNIT 53000' successfully before taking any other courses. All other courses in the program can be taken in any order. Informally, the instructor

expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology).

This course introduces the application of knowledge, skills, tools, and techniques that enterprise level business analyst use to create accurate requirements statements, organization level needs analysis and accurate business cases which assist the project team in developing schedules and budgets as well as strategic management teams in selecting the right projects to execute. Special emphasis is placed on learning and applying the concepts of innovation driven management.

Graduate Council Document 18-33c, CNIT 53500, Advanced Topics in IT Business Analysis (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For residential graduate students, there is no course prerequisite other than being in good standing in a graduate program related to information technology. Accordingly, the course is open to graduate students in CIT (=CNIT), TECH, CS, CGT, and MGMT – other graduate programs by permission. For undergraduate students, CNIT 48000 and a GPA > 3.00. All students registered in the Information Technology Business Analysis online distance based MS degree must have previously taken the CIT Business Analysis course or certified as a Professional Business Analyst. Informally, the instructor expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology).

The course explores the topics and tools used by today's information system professionals to lead the requirements gathering, estimating, developing, and delivery efforts of custom software applications. Course emphasis focuses on agile methodologies. Emphasis is also placed on requirements gathering and estimating technics commonly used with agile teams.

Graduate Council Document 18-33d, CNIT 58000, Advanced Topics in Information Technology Project Management (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For graduate students, they must have successfully completed CNIT 55200 or currently have a PMP certificate. For undergraduate students, CNIT 48000 and a GPA > 3.00. Informally, the instructor expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology).

The course explores and applies the advanced concepts, skills, knowledge, techniques, and tools required to successfully initiate, plan, manage, execute, control, and report on information technology projects. Special emphasis is placed on applying the PMBOK in a real life business case study as well as researching and learning concepts, techniques, and processes experienced project and program managers employ to successfully plan and manage projects. This course enables the student to learn project management through the application of project approaches in a team based setting. Through the application of project methodologies, tools and templates, the student learns the project life-cycle approach as demonstrated through actual and simulated project situations.

Graduate Council Document 18-33e, CNIT 58200, IT Project Estimating, Control, & Scheduling (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For traditional graduate students, there is no course prerequisite other than being in good standing in a graduate program related to information technology. Accordingly, the course is open to graduate students in CIT (=CNIT), TECH, CS, CGT, and MGMT – other graduate programs by permission. For undergraduate students, CNIT 48000 and a GPA > 3.00. To be admitted to the professional graduate program, students must have an IT background either in work history or undergraduate education. In the professional graduate program, all students must first take the first course 'CNIT 55205' successfully before taking any other courses. All other courses in the program can be taken in any order. Informally, the instructor expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology).

An exploration of the body of knowledge, skills, processes, methods, and techniques that IT project managers can use to create and manage time and cost estimates, as well as the creation of accurate schedules with dependencies. The course reviews research of best practices in schedule management and budget management. Students will apply these skills and techniques to business problems.

Graduate Council Document 18-33f, CNIT 58300, IT Program and Portfolio Management (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For traditional graduate students, there is no course prerequisite other than being in good standing in a graduate program related to information technology. Accordingly, the course is open to graduate students in CIT (=CNIT), TECH, CS, CGT, and MGMT – other graduate programs by permission. For undergraduate students, CNIT 48000 and a GPA > 3.00. To be admitted to the professional graduate program, students must have an IT background either in work history or undergraduate education. In the professional graduate program, all students must first take the first course ‘CNIT 55205’ successfully before taking any other courses. All other courses in the program can be taken in any order. Informally, the instructor expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology).

Program and Portfolio Management deliver benefits to organizations by enhancing current abilities or developing new capabilities for the organization to use. This CNIT Graduate course will provide a detailed understanding of Program and Portfolio Management and its relationship to Project management and will present concepts that promote efficient and effective management and communications among various groups. This course curriculum is consistent with the Project Management Body of Knowledge (PMBOK®) and related Standards for Program and Portfolio Management published by the Project Management Institute.

Graduate Council Document 18-33g, CNIT 58500, Organizational Change Management for IT Projects (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For graduate students, there is no course prerequisite other than being in good standing in a graduate program related to information technology. Accordingly, the course is open to graduate students in CIT (=CNIT), TECH, CS, CGT, and MGMT – other graduate programs by permission. For undergraduate students, CNIT 48000 and a GPA > 3.00. Informally, the instructor expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology). Students must be capable of self-learning a new technology (specifically, a business process modeling tool that supports BPMN 2.0 diagramming). The students either choose a technology endorsed by their employer, or a tool of their own preference or ownership. Historically, most students have chosen one of the following:

- Microsoft *Visio Pro* (available at academic pricing for Windows)
- Odessa *ConceptDraw Pro* (available as trial version or academic pricing for macOS and Windows)
- BizAgi *Process Modeler* (open source; available as free, open source license for macOS or Windows)
- Lucid *LucidDraw* (available at academic pricing for iOS and Android)

An exploration of the body of knowledge, skills, processes, methods, and techniques that IT project managers can use to manage the “people” side of organizational change that results from IT projects that implement new technologies, systems, services, and products into the workplace. This is sometimes called *stakeholder* management. The course reviews research of best practices in change management and their impact on project metrics such as schedule, budget, scope, stakeholder satisfaction. Students also learn how to identify and document the organizational and people impacts of new information technology solutions, and then develop a formal project plan to manage the organizational change.

Graduate Council Document 18-33h, CNIT 58600, IT Requirements Management (PWL) Sem. 1 and 2. SS. Distance. Credit 3. Prerequisites: For residential graduate students, there is no course prerequisite other than being in good standing in a graduate program related to information technology. Accordingly, the course is open to graduate students in CIT (=CNIT), TECH, CS, CGT, and MGMT – other graduate programs by permission. For undergraduate students, CNIT 48000 and a GPA > 3.00. All students registered in the Information Technology Project Management online distance based MS degree must have previously taken the CIT Project Management Essentials course or certified as a PMP (Project Management Professional by PMI). Informally, the instructor expects students to be reasonably proficient with a word processor and spreadsheet (no specific technology).

The course explores the approaches used by today's information system professionals to conduct and manage the requirements development process. Course emphasis focuses on contemporary techniques for requirements elicitation, requirements analysis, requirements specification, requirements validation and verification. Emphasis is also placed on identifying stakeholders through the use of formal stakeholder analysis techniques, the use of formal change control, requirements traceability and the use of requirements management tools. The course is designed based on the principles and competencies prescribed by the Project Management Institute's PMBOK (Project Management Body of Knowledge) and Business Analyst Guide as well as the International Institute of Business Analysis's BABOK (Business Analysis Body of Knowledge).

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

The art and structure of strategic thinking in engineering decision making and public policy formulation. Principles and frameworks for developing competitive strategies. Determination of relevant environments and key factors for success. Customer-based, Corporate-based, Competitor-Based and Public-based strategies. Scale, niche market, technology, innovation, and globalization. Competitive strategy involving engineering domain knowledge for products, processes, services, and technical research. Contemporary approaches for strategic planning and the fundamental concepts in The Art of War by Sun Tzu. Strategic positioning, entry barriers, advantage of speed and winning without competition. Research and case development based on domain knowledge in engineering.

Graduate Council Document 18-7b, ITS 57000, Principles of Computer Networks and Communications (PNW-Hammond) Sem. 1 and 2. SS. Lecture 1 time per week for 150 minutes. Credit 3. Prerequisites: Background in computer related major.

This course provides the advanced topics in computer networks and communications, which will cover information theory, signal and noise analysis, advanced encoding schemes, modulation, multiplexing, wireless spectrum characteristics including various wireless networks, routing algorithm and protocol, transport layer protocols, client and server protocols, network security and performance.

Graduate Council Document 18-21a, MSE 60000, Materials Engineering Fundamentals (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3.

Fundamental relationships between the internal structure, properties and processing in all classes of engineering materials. Comprehensive coverage spanning physical, chemical, thermal, mechanical, electrical, magnetic, and optical responses. The course is intended for materials researchers from all backgrounds, as well as engineers working in product design, development and manufacturing who seek a deeper understanding of the full spectrum of engineering materials.

Area Committee C, Chemistry, Engineering Sciences, Chair to be determined.:

*Graduate Council Document 18-4a, **BME 56200, Regulatory Issues Surrounding Approval of Biomedical Devices** (PWL) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3.*

Medical devices are developed, manufactured, and distributed in a highly-regulated environment. This course primarily concerns the processes for obtaining FDA marketing approval or clearance for biomedical devices. Prior to marketing a medical device in the US, a specific governmental approval or clearance is required depending on the type of device and the risk associated with the device. This course is part of a three-course series dealing with various aspects of regulatory science.

Regulatory processes for class I, II, and III devices, including combination devices, are covered with specific focus on 510(k) and PMA requirements. Approval requirements in the EU, Japan and other countries will also be briefly considered. Throughout the course, emphasis will be placed on regulatory science, regulatory strategy and principles of interacting with regulatory agencies.

*Graduate Council Document 18-4b, **BME 56300, Quality Systems for Regulatory Compliance** (PWL) Sem. SS. Lecture 3 times per week for 100 minutes for 8 weeks. Credit 3.*

Medical devices are developed and manufactured in a highly regulated environment. This course will provide an introduction, overview, and systematic study of the intent and impact of the major federal laws and regulations governing the development, manufacturing, distribution, and marketing of medical devices. Focus is on understanding the critical elements of regulatory science and quality compliance from a design control perspective. Instruction and mentoring in regulatory science skills is provided by academics and industry representatives with expertise in their fields. This course is part of a three-course series.

*Graduate Council Document 18-34a, **FIS 50100, Advanced Forensic Microscopy** (IUPUI) Sem. 1 and 2. Lecture 1 time per week for 100 minutes. Credit 1. Prerequisites: FIS 30600 or enrollment in the FIS graduate program.*

Discussion of advanced topics in forensic microscopy. This will include review of common forensic laboratory microscopes such as, stereomicroscope, compound light microscope, and polarizing light microscope. The course will include the fundamentals of light, matter, and optics common to microscopy. Introduction to the application of spectroscopy to microscopy will be examined. Discussion on advanced trace evidence analysis will be covered; including impression evidence, plant material, feathers, polymers, and minerals.

*Graduate Council Document 18-34b, **FIS 50101, Advanced Forensic Microscopy Laboratory** (IUPUI) Sem. 2. SS. Laboratory 2 times per week for 100 minutes. Credit 2. Prerequisites: FIS 30601 or enrollment in the FIS graduate program.*

This will be a hands-on laboratory course. During this course, students will perform analysis of trace evidence. This will include a more complex use of light and comparison microscopes and instrumental microscopes. Topics will include; mineral content in soil, dispersion of glass particles, physical matches and impressions of trace evidence, polymer identification and microspectrophotometry.

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

Graduate Council Document 18-35a, AMST 60400, Transnational America: Through A Comparative Lens (PWL) Sem. 1 and 2. Lecture 1 time per week for 170 minutes. Credit 3.

What does the term “transnational” mean? How is the term defined, practiced, and studied in different fields? How does one take a transnational perspective, or examine the transnational variable? This

course will draw from various fields (sociology, history, anthropology, ethnic studies, etc) to explore contemporary scholarship on transnationalism in theory and in practice. Specifically, we will examine scholarship that either, 1) utilizes the transnational perspective in understanding history, the globe, and human behavior/interactions, or 2) utilizes transnational behaviors/ties as a variable to measurement adaptation. Materials in this course will examine—through the lens of race, ethnicity, class, gender, and sexuality—individual and comparative transnational case studies related to the Americas, Africa, Asia, and Europe.

This is a graduate seminar, and your active participation in discussions is mandatory. You will be asked to lead four seminar discussions on selected topics from the required readings, write three memos, and submit an extended book review.

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

Graduate Council Document 18-1b, BIOL 55510, Model Organisms in Research (IUPUI) Sem. SS. Lecture 1 time per week for 60 minutes. Distance 120 minutes per week – online discussion. Credit 3.

Students will be introduced to the evolutionary similarities that allow study of human disease in certain organisms and the differences that limit the conclusions that can be made from that research. Students will be introduced to the history of the use of these organisms and the characteristics that give these organisms the label of “model” organism. Students will be asked to think critically and be able to evaluate primary sources of research.

Graduate Council Document 18-27a, HSCI 51500, Introduction to Nuclear and Radiological Source Security (PWL) Sem. 1. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: HSCI 31200 or permission of instructor.

This course focuses on the basic elements of nuclear and radiological source security. It examines methods for planning and evaluating nuclear security activities at the State and facility level, establishing nuclear security culture in different types of nuclear and radiological installations, and examines nuclear cyber and information security measures. Issues and approaches for nuclear security concerns, both state-level (e.g., nonproliferation and deterrence) and asymmetric concerns (e.g., nuclear smuggling and nuclear terrorism) will be addressed. The integration of safety and security and the use of alternative technologies will also be covered. Group exercises and simulations in applied nuclear security scenarios will complement lectures given by a number of national and international experts. This course is designed for both “technical” (engineering and science) and “non-technical” (policy) students and the interaction between students of different backgrounds is encouraged.

Graduate Council Document 18-27b, HSCI 51600, Molecular Imaging-Nuclear Medicine (PWL) Sem. 1. Lecture 2 times per week for 50 minutes. Credit 2. Prerequisites: HSCI 31200 and/or HSCI 31300 or consent of instructor.

This course is related to molecular imaging by SPECT (single-photon emission computed tomography) and/or PET (positron emission tomography). This course is particularly useful for graduate and senior undergraduate students in our medical physics programs. It has been offered to MP and HP graduate students over the last 4 years (2014 – 2018) as a part of the 3-credit molecular imaging course with magnetic resonance spectroscopy (MRS: 1-credit) taught by Dr. Ulrike Dydak, computed tomography (CT: 1-credit) taught by Dr. Keith Stantz, and nuclear medicine (NM: 1-credit) taught by Dr. Shuang Liu. In the future, it will expand the “Nuclear Medicine” section as a 2-credit course on the basis on our previous lectures. This course focuses on recent development in nuclear medicine techniques for noninvasive imaging of brain diseases, cancer, and heart diseases. This course is delivered as 50-min lectures twice a week. Students are expected to spend more time for homework and literature reading.

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

Graduate Council Document 18-9d, MGMT 58100, Big Data Technologies (PWL) Sem. 1. Lecture 2 times per week for 90 minutes for 8 weeks. Distance. Credit 2.

There is an exponential growth in the adoption of big data technologies in every walk of life. Organizations are collecting, storing, and analyzing massive amounts of data. This data is commonly referred to as “big data” because of its large volume, the velocity with which it is collected and transmitted, the variety of forms it takes, and veracity of its origin and content. In order to capitalize on the opportunities presented by big data, businesses are putting in place technologies, people, and processes. Just collecting, transmitting and storing big data creates little value for an organization. For many organizations, the term big data currently represents only a data infrastructure such as the Apache Hadoop family of products. The key to delivering real value from big data is the use of analytics. Data must be analyzed and the results used by decision makers and organizational processes in order to generate value. The main objective of this course is to learn how to collect, process, store, and analyze big data.

Assignments could easily be completed in Python or SQL. We assume no familiarity with Linux and will introduce you to all essential Linux commands. Students need access to a computer with a 64 bit operating system and at least 4 GB of RAM. Note: 8 GB or more of RAM is strongly recommended.

Graduate Council Document 18-9f, MGMT 58600, Python Programming (PWL) Sem. 1 and 2. SS. Lecture 3 times per week for 90 minutes for 8 weeks. Credit 3. Lecture 2 times per week for 59 minutes for 8 weeks. Credit 2. Distance.

Because data grows exponentially and becomes complex, we need computational methods to collect, store, and analyze them in order to be successful in science, engineering, business, and other professions. Python Programming is an introductory programming class that meets this need. You will learn how to write computer programs in Python language to solve real-world problems. This class is designed for students that want to learn to computer programming for data science. This course guides students through the basic Python programming language, from initial concepts to final data analysis using python and external packages.

Graduate Council Document 18-9a, **MGMT 58800, Business Insights with Spreadsheets and Macro Programming** (PWL) Sem. 1. 2 credits - Lecture 2 times per week for 90 minutes or 3 credits – Lecture 3 times per week for 90 minutes. 2 to 3 credits - Distance (online/hybrid for executive programs).

This course takes a variety of business topics and implements with state-of-the-art spreadsheet models. Students will gain hands-on experience with a wide range of business problems and databases in finance, marketing, operations, and so on. The focus of this course is to learn Visual Basic for Applications (VBA) to design functions and macros that will enhance spreadsheet models. Students will also have exposure to basics and other advanced topics of spreadsheet modeling. In addition to in-classroom time, this course will also meet in computer-based labs for hands-on instructions and implementation.