

PURDUE UNIVERSITY GRADUATE SCHOOL

Minutes of the Graduate Council Meeting
October 22, 2020
1:30 p.m.

Second Meeting

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

PRESENT: Linda J. Mason, chair, Council Members, Dulcy M. Abraham, Raida Abuizam, Christopher R. Agnew, Thomas W. Atkinson, Suzanne C. Bart, Janice S. Blum, Steven J. Burdick, David S. Cochran, Joy Colwell, G. Jonathan Day, Bryan DeWitt, Duane D. Dunlap, Emad Elwakil, Levon Esters, Keith B. Gehres, Margaret Gitau, Richard H. Grant, Chong Gu, Erla Heyns, John A. Morgan, Melanie Morgan, Madelina Nuñez, Zhan Pang, Tina L. Payne, Paul Salama, Abraham Schwab, Ann Shanahan, David G. Skalnik, John A. Springer, Mitchell L. Springer, Joseph D. Thomas, Candiss B. Vibbert (Provost's Representative), Eric Waltenburg, Jennifer William, Yoon Yeo, Chenn Zhou

APOLOGIES FOR ABSENCE RECEIVED FROM: Christopher K. Belous, Eric D. Deemer, Timothy B. Lescun, James L. Mohler, Jill Suitor, Nicole J. Widmar

ABSENCES: Rita A. Burrell, William McCartney, Paul F. Muzikar, Anson Soderberry, Daoguo Zhou

GUESTS: Debbie Fellure, Brandi Plantenga, Korena Vawter

I. MINUTES

The September 2020 Graduate Council meeting minutes were approved via the Qualtrics Survey.

II. DEANS REMARKS AND REPORTS

Dean Linda Mason

- The Data Transparency Project has joined with the American Association of University Professors (AAUP) Data Transparency Project
- The project is for students who are looking for graduate programs and want information about all programs they are applying to in order to compare other graduate programs as they begin applying
- All the Big 10 Schools have completed the data

- The data has been sent for final review to the Graduate Heads for West Lafayette. Our hope is to have this for the other campuses in the near future.
- Students applying for a Ph.D. or Masters in a specific area can see how many people applied to that program each year, how many were accepted and attended
- Students are able to see what the average GPA or other scores of a person applying for that specific program
- Students are able to see what the time to degree is and what the completion rate is for that specific program
- Students are able to see how many students are funded and what the funding model is
- Do students get accepted if they have funding or do 50% of students get funding or does anyone get funding
- Employment is weak for every Graduate School across the country with graduate students
- Will continue to add data to the Database as it is our hope to go live for students applying this year
- Working on a system of getting information to faculty and students about the process that is needed to document where students are
- Three things students need to do when they are not going to be on campus for the Spring semester: 1) Complete Form 12, Research In Absentia 2) Form 19 Research for Off-Campus Ph.D. or Master's Research. Electronic version is being created for next semester 3) Change of Duty Station
- Time to degree expected to lengthen due to COVID. Students may experience problems with funding
- Money for Recruitment Assistantships used for recruitment could be used for retention in departments in discussions about graduate education
- West Lafayette campus travel restrictions remain in place
- The expectation for people who travel out of state after break will be tested for COVID two weeks before returning to campus
- Students who stay over the holidays and return to the lab to function on January 5, 2021 should be tested two weeks prior, being December 23, 2020
- Availability for testing during the holidays with the exception of a few days
- Mental Health Awareness Week October 19 – 23
- The Graduate School's Professional Development Office continues to offer workshops. Went from 4,800 to over 10,000 registrations

Tina Payne, Graduate Council Secretary

- All voting members should vote on all proposals via the Qualtrics Survey not just the proposals reviewed by each subcommittee

- Proposals voted to be “Held for Discussion” will stop the proposal. We would ask that the proposer be contacted to work out any issues. If it is a serious matter and should be discussed by the entire Graduate Council, that should be the option for such matters

III. AREA COMMITTEE REPORTS (Area Committee Chairs)

Graduate Council Document 20F, Graduate Council Documents Recommended for Approval. See Appendix B. Voted via Qualtrics survey.

IV: PRESENTATION

Drew Zaitsoff, Purdue Counseling and Psychological Services (CAPS) Staff Therapist

- A number of clinicians have been hired to work with the student population with the largest freshman class in history
- Also, hired clinicians specifically intended to work with students of color
- The feedback indicated that the staff is predominantly white and students who are not have noticed that that they are not getting the same type of care or service
- State licensing laws only allows Dr. Zaitsoff to work with students who are physically in Indiana
- Will be an issue once students leave at Thanksgiving break and go elsewhere
- Students who will not be in Indiana should call for a care manger. CAPS will help locate resources in students particular area

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

Madelina Nuñez, President of the Purdue Graduate Student Government (PGSG)

- Mental Health Action Week for both Fall 2020 and Spring 2021
- New, Anonymous Reporting via PGSG
- Immigration Attorney at Purdue University Updates

VI. NEW BUSINESS

- a) Dr. Tom Atkinson presented the West Lafayette Fall 2020 Enrollment Report. The complete report is posted on the Graduate School website.
<https://www.purdue.edu/gradschool/faculty/enrollment.html>
- b) Dr. Abraham Schwab presented the Fort Wayne Fall 2020 Enrollment Report. The complete report is posted on the Graduate School website.
<https://www.purdue.edu/gradschool/faculty/enrollment.html>

The council meeting was adjourned by Dean Mason at 2:41 p.m.

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

APPENDIX A

PENDING DOCUMENTS

(October 2020)

BOLDED ITEMS ARE IN REVIEW WITH AN AREA COMMITTEE

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

Graduate Council Document 20-50a, EDU 50601, Essential Counseling Skills (PFW)

Graduate Council Document 20-50b, EDU 52700, Diagnosis And Treatment Planning In Counseling (PFW)

Graduate Council Document 20-50c, EDU 56400, Child And Adolescent Counseling (PFW)

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

Graduate Council Document 20-30a, CNIT 60100, Applied Statistics In Information Technology (PWL)

Graduate Council Document 20-29d, CS 52520, Software Design I (PNW)

Graduate Council Document 20-29e, CS 52530, Software Design II (PNW)

Graduate Council Document 20-43a, ECE 55500, Computer Aided Circuit Simulation (PNW)

Graduate Council Document 20-19d, ME 56801, Intermediate Fluid Dynamics (PNW)

Graduate Council Document 20-44a, TECH 62700, Technology Leadership In The Era Of Social Media (PWL)

Graduate Council Document 20-44b, TECH 62800, Technology Research And Use Of Data Analytics (PWL)

Graduate Council Document 20-44c, TECH 62900, Global Supply Chain Analysis & Optimization (PWL)

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

Graduate Council Document 20-45a, BME 55500, Magnetic Resonance Imaging Theory (PWL)

Graduate Council Document 20-41a, MA 57700, Computational Mathematics I (PNW)

Graduate Council Document 20-41b, MA 57800, Computational Mathematics II (PNW)

Area Committee F, Management Sciences (Nicole J. Widmar; chair, nwidmar@purdue.edu):
Graduate Council Document 20-33b, MGMT 50220, Accounting Communications (PNW)
Graduate Council Document 20-33c, MGMT 51040, Tax Practice and Standards (PNW)
Graduate Council Document 20-33d, MGMT 51120, Tax For Managers (PNW)
Graduate Council Document 20-33e, MGMT 55200, Advanced Financial Reporting (PNW)
Graduate Council Document 20-33f, MGMT 67301, Data Preparation & Visualization (PNW)
Graduate Council Document 20-33i, MGMT 67401, Decision Analytics (PNW)
Graduate Council Document 20-33g, MGMT 68401, Advanced E-Business Strategy (PNW)
Graduate Council Document 20-33h, MGMT 68501, Supply Chain Management (PNW)
Graduate Council Document 20-42a, STAT 50001, Statistical Computing (PNW)
Graduate Council Document 20-42b, STAT 53001, Applied Statistics (PNW)

CERTIFICATES:

Area Committee A, Behavioral Sciences (G. Jonathan Day, chair; gjday@purdue.edu):
Graduate Council Document 20-51a, Graduate Certificate in Telemental Health Counseling
Submitted by the Departments of Curriculum & Instruction, and Psychological Sciences
<https://purdue.curriculog.com/proposal:14108/form>

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

Graduate Council Document 20-52a, Graduate Certificate in Smart Manufacturing Enterprise
Submitted by the Department of Polytechnic Institute Administration
<https://purdue.curriculog.com/proposal:13239/form>

MAJOR(S):

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

Graduate Council Document 20-53a, Graduate Major in Data Science in Finance, Submitted by the Department of Statistics, PWL
<https://purdue.curriculog.com/proposal:13839/form>

APPENDIX B

GC Document 20-E

DOCUMENTS RECOMMENDED FOR APPROVAL BY THE GRADUATE COUNCIL October 2020

GRADUATE COURSE PROPOSALS:

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

Graduate Council Document 20-50a, EDU 50601, Essential Counseling Skills (PFW) Sem. SS. Lecture 2 times per week for 200 minutes for 6 weeks. Credit 3.

The goal of this course is to acquaint students with concepts related to essential counseling skills and techniques, as well as foundations of the counseling profession. Permission of department required.

<https://purdue.curriculog.com/proposal:13999/form>

Graduate Council Document 20-50b, EDU 52700, Diagnosis And Treatment Planning In Counseling (PFW) Sem. 2. Lecture 1 time per week for 165 minutes. Credit 3.

Students will be introduced to foundational mental health principles to include an understanding of psychopathology, diagnosis and differential diagnosis, treatment planning, and evidence-based treatments for various mental health disorders. Students will also be introduced to basic principles of psychopharmacology and become familiar with typically prescribed medications for various mental health disorders. Students will develop knowledge and skills necessary to conduct systematic and culturally-sensitive assessment and treatment planning activities. Permission of department required.

<https://purdue.curriculog.com/proposal:14076/form>

Graduate Council Document 20-50c, EDU 56400, Child And Adolescent Counseling (PFW) Sem. 1 and 2. SS. Lecture 1 time per week for 165 minutes. Lecture 2 times per week for 200 minutes for 6 weeks when offered in Summer. Credit 3.

This course provides specialized knowledge and skills training on how to counsel children and adolescents. Emphasis is on the application of therapeutic models, strategies, and techniques while also exploring personal, cultural, and professional factors that influence the helping relationship. Ethical, legal, developmental, and multicultural issues are considered. Students are encouraged to critically analyze the readings, explore current research, expand their self-awareness, and consider their role as advocates for this population at the individual, community, and public levels. Permission of department required.

<https://purdue.curriculog.com/proposal:14001/form>

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

Graduate Council Document 20-30a, CNIT 60100, Applied Statistics In Information Technology (PWL) Sem. 2. Lecture 1 meeting per week for 150 minutes. Credit 3.

This course will survey the field of applied statistics in information technology. Students will gain hands-on experience running statistical analyses on samples from a variety of populations. Students will learn the process of data cleaning, data transforming/coding, identifying the appropriate statistical analyses (descriptive and inferential), as well as writing and interpreting the results. Specifically, this course will survey the following statistical approaches: correlations, t-test, analysis of variance, analysis of co-variance, factorial ANOVA, simple regression, multiple regression, logistic regression, chi-square analysis, factor analysis, and nonparametric tests. In this course, students will be able to differentiate statistical analyses and identify appropriate statistical analyses depending on the research question and variables of interest. Permission of instructor required.

<https://purdue.curriculog.com/proposal:12062/form>

Graduate Council Document 20-29d, CS 52520, Software Design I (PNW) Sem. 1 and 2. Lecture 2 times per week for 50 minutes. Laboratory 2 times per week for 50 minutes. Credit 3. Prerequisites: CS 41600, with a C or better grade.

This is a first course in Software Design, which is an internship-training course that the PNW Computer Science faculty conducts in cooperation with a local software industry partner, with students working on software development projects for the partner. Over the past few years the project has been run in conjunction with the Valparaiso, Indiana based software development company, BEULAHWORKS, LLC.

This course introduces various topics related to software design including Object-Oriented Analysis & Design, Object-Oriented Design Principles, UML Diagrams, Architecture Design & Patterns and other topics.

In addition, students will participate in developing software for software industry use. In particular, students will work in small teams to design and implement new features for a commercial software project. By the end of the course, students should gain practical experience with enterprise software design and implementation. The first half of the semester will be devoted to lectures regarding software design (assignments related to the lectures will also be given during this time). For the second half, students will be working on the project.

The students who get a B or better grade will be able to take the second course of the sequence, Software Design II. Permission of instructor required.

<https://purdue.curriculog.com/proposal:13019/form>

Graduate Council Document 20-29e, CS 52530, Software Design II (PNW) Sem. 1 and 2. Lecture 2 times per week for 50 minutes. Laboratory 2 times per week for 50 minutes. Credit 3. Prerequisites: CS 52520, with a B or better.

This is a second course in Software Design, which is an internship-training course that the PNW Computer Science faculty conducts in cooperation with a local software industry partner. It is based on Software Design I, and allows students to continue to work on software development projects for the partner. Over the past few years, the project has been run in conjunction with the Valparaiso, Indiana based software development company, BEULAHWORKS, LLC.

This course introduces various topics related to software design, including Object-Oriented Analysis & Design, Object-Oriented Design Principles, Design Patterns, Axiomatic Design and other topics.

In addition, students will participate in developing software for software industry use. In particular, students will work in small teams to design and implement new features for a commercial software system. By the end of the course, students should gain practical experience with enterprise software design and implementation. The first half of the semester will be devoted to lectures regarding software design (assignments related to the lectures will also be given during this time). For the second half, students will be working on the project. Permission of instructor required.

<https://purdue.curriculog.com/proposal:13021/form>

Graduate Council Document 20-43a, ECE 55500, Computer Aided Circuit Simulation (PNW) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3.

Introduction to computer aided design, classification of CAD operations and stamps, modified nodal admittance matrix inversion, frequency and time-domain analysis of linear circuits, DC iterations and time-domain analysis of nonlinear circuits, and other advanced topics such as model order reduction technique.

<https://purdue.curriculog.com/proposal:13894/form>

Graduate Council Document 20-19d, ME 56801, Intermediate Fluid Dynamics (PNW) Sem. 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: ME/CE 31200.

The following topics will be covered: preliminary concepts of fluid dynamics, solutions of the Newtonian viscous flow equations (Couette Flow, Poiseuille Flow, Flows with Suction and Injection, etc.), integral equations for laminar boundary layers (BLs), differential equations for laminar BLs, exact solutions to the incompressible BL equations, numerical solution to the incompressible laminar BL equations, transition from laminar to turbulent flow. The objective of this course is to provide an understanding of the effects of viscosity on fluid motion and heat transfer. Basic fluid properties, exact solutions of the Newtonian viscous flow equations, incompressible laminar boundary layers, and turbulent boundary layers are discussed in detail.

<https://purdue.curriculog.com/proposal:12500/form>

Graduate Council Document 20-44a, TECH 62700, Technology Leadership In The Era Of Social Media (PWL) Sem. 1 and 2. SS. Distance. Credit 3.

This course will provide an overview of the strategic use and management of social media by technology leaders. In the digital age, technology and data transform every step of the business process, generating a need for new digital tools across all industries and capabilities. Technology innovation leaders and enterprise leaders must be conversant in current and emerging technologies, particularly the growing influence of social media, to identify opportunities and create competitive advantage.

<https://purdue.curriculog.com/proposal:10652/form>

Graduate Council Document 20-44b, TECH 62800, Technology Research And Use Of Data Analytics (PWL) Sem. 1 and 2. SS. Distance. Credit 3.

Examines concepts, models and methods useful for applying data analytics in business environments. Focusing on Hypothesis generation, the capturing, storage and expression of data, analysis for research and visualization.

<https://purdue.curriculog.com/proposal:10656/form>

Graduate Council Document 20-44c, TECH 62900, Global Supply Chain Analysis & Optimization (PWL) Sem. 1 and 2. SS. Distance. Credit 3.

This course will provide an overview to supply chain management including history of supply chain, elements of supply chain, interactions of supply chain elements, and factors that impact supply chain success.

<https://purdue.curriculog.com/proposal:10699/form>

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

Graduate Council Document 20-45a, BME 55500, Magnetic Resonance Imaging Theory (PWL) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes. Credit 3.

Prerequisites: ECE 30100 or graduate standing, or consent of instructor.

This course covers fundamental aspects of magnetic resonance imaging systems with an emphasis on theory, methodology, and instrumentation. Key principles are derived from the Bloch equations and Maxwell's equations. Topics include pulse sequences, signal acquisition, spatial encoding in k-space, image reconstruction, and tissue contrast. Major components of an MRI scanner are examined, including the static magnet, gradient and shim coils, transmit and receive chains, and radiofrequency coils and arrays. Learning outcomes are assessed by solving problem sets integrating theory with practical applications. As a final research project, students survey recent literature to identify a specialized topic of interest and deliver a peer-evaluated presentation to the class.

<https://purdue.curriculog.com/proposal:12280/form>

Graduate Council Document 20-41a, MA 57700, Computational Mathematics I (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: MA 26500, with a C or better.

This is a graduate-level course in computational mathematics, which is the study of algorithms and methods for computing numerical answers to science and engineering problems. The purpose of this course is to introduce students to the techniques and concepts of modern numerical analysis. In this course, students study algorithms and numerical methods for a variety of basic problems, studying their reliability, efficiency, and computer implementation. This course is designed for graduate students and select advanced undergraduate students in mathematics, computer science, engineering, and sciences. Topics include floating point arithmetic, numerical solutions of equations and systems, eigenvalues and eigenvectors, polynomial and spline interpolation and approximation, and curve fitting. Each numerical method discussed in class is demonstrated through the use of MATLAB, which is user friendly

and presents advantages such as: powerful matrix structure, versatile two- and three-dimensional graphing facilities, and a vast number of built-in functions.

<https://purdue.curriculog.com/proposal:13024/form>

Graduate Council Document 20-41b, MA 57800, Computational Mathematics II (PNW)
Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: MA 26400, with a C or better; NOTE: The first half (proposed as MA 57700) of the year-long course in Computational Mathematics is NOT a pre-requisite for this course. Despite being a natural continuation of the first half, the proposed course is self-contained and independent from it.

This course in computational mathematics is the study of algorithms and methods for computing numerical answers to science and engineering problems. The purpose of this course is to introduce students to the techniques and concepts of modern numerical analysis. The students study algorithms and numerical methods for a variety of basic problems, studying their reliability, efficiency, and computer implementation. This course is designed for graduate students and select advanced undergraduate students in mathematics, computer science, engineering, and sciences. Topics include numerical optimization, numerical differentiation and integration, and computer solutions to differential equations. Each numerical method discussed in class is demonstrated through the use of MATLAB, which is user friendly and presents advantages such as: powerful matrix structure, versatile two- and three-dimensional graphing facilities, and a vast number of built-in functions.

<https://purdue.curriculog.com/proposal:13041/form>

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

Graduate Council Document 20-33b, MGMT 50220, Accounting Communications (PNW)
Sem. 1 and 2. SS. Lecture 2 times per week for 230 minutes for 6 weeks or Lecture 1 time per week for 150 minutes for 16 weeks. Distance. Credit 3.

This course emphasizes the important elements of communications: written, oral, email, and “body language”. It is a project orientated class with both group and individual projects.

<https://purdue.curriculog.com/proposal:13062/form>

Graduate Council Document 20-33c, MGMT 51040, Tax Practice and Standards (PNW)
Sem. 1 and 2. SS. Lecture 1 time per week for 230 minutes for 6 weeks. Credit 3.

Tax Practice and Standards is an intensive study of Federal taxation of Individuals, Federal taxation of Businesses, and Representation before the Internal Revenue Service.

<https://purdue.curriculog.com/proposal:11298/form>

Graduate Council Document 20-33d, MGMT 51120, Tax For Managers (PNW)
Sem. 1 and 2. SS. Lecture 1 time per week for 170 minutes. Credit 3.

This advanced taxation course introduces topics of primary interest to management and discrete tax professionals including payroll tax, sales tax, use tax, property tax, occupancy tax, and unclaimed property. The course approach is through the perspective of a new business exploring administrative, compliance, and common issues for each subject area conducted through hands-on case studies procured from actual client work.

<https://purdue.curriculog.com/proposal:12219/form>

Graduate Council Document 20-33e, MGMT 55200, Advanced Financial Reporting (PNW) Sem. 2. Lecture 1 time per week for 150 minutes. Credit 3. Prerequisites: ACC-351 or FIN-310 Microsoft Excel.

This course focuses on financial statement analysis and interpretation of financial disclosures to help decision making and forecasting. It includes financial statement analysis, revenue recognition, asset recognition, liability recognition, and equity recognition. The course utilizes a combination of lectures, class discussions, numerical exercises and group assignment. Permission of department required.

<https://purdue.curriculog.com/proposal:11201/form>

Graduate Council Document 20-42a, STAT 50001, Statistical Computing (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: STAT 34500 with a grade of C or better, or equivalent.

The purpose of this course is to teach fundamental computing skills required by practicing statisticians. Students will use statistical software for analysis and model building of real world data. Topics include descriptive statistics, inferential statistics, model building, designing and performing simulation experiments, and writing effective code to perform common statistical tasks.

<https://purdue.curriculog.com/proposal:13054/form>

Graduate Council Document 20-42b, STAT 53001, Applied Statistics (PNW) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3. Prerequisites: STAT 50001 with a grade of C or better, or equivalent.

The purpose of this course is to teach how mathematical reasoning and statistical methods are used to analyze qualitative and quantitative data. Topics include estimation and hypotheses testing, linear and nonlinear models, generalized linear models, analysis of categorical data, elements of survival analysis and nonparametric statistical methods. Extensive use of statistical software is required.

<https://purdue.curriculog.com/proposal:13055/form>

MAJOR(S):

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

Graduate Council Document 20-53a, Graduate Major in Data Science in Finance, Submitted by the Department of Statistics, PWL

<https://purdue.curriculog.com/proposal:13839/form>

CERTIFICATE(S):

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

Graduate Council Document 20-51a, Graduate Certificate in Telemental Health Counseling
Submitted by the Departments of Curriculum & Instruction, and Psychological Sciences
<https://purdue.curriculog.com/proposal:14108/form>

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

Graduate Council Document 20-52a, Graduate Certificate in Smart Manufacturing Enterprise
Submitted by the Department of Polytechnic Institute Administration
<https://purdue.curriculog.com/proposal:13239/form>

NEW DOCUMENTS RECEIVED

(After the October 22, 2020 Graduate Council Meeting)

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

Graduate Council Document 20-13e, **EDCI 59600, Pedagogy I: Introductory Methods For Secondary Education Transition To Teaching Program** (PWL) Sem. 1 and 2. SS. LEC/DIS arrange hours. Credit 3.

This course is the introductory seminar for the secondary Transition to Teaching (TTT) programs across disciplines. Students who enroll in this course will be seeking teaching licensure in one of the secondary program areas available at Purdue University. Therefore, instruction in the course will revolve around general educational concerns and issues that are applicable to all content area instruction at the middle and high school levels. Permission of department required. Typically offered Fall Spring Summer.

Graduate Council Document 20-13f, **EDCI 59700, Pedagogy II: Advanced Methods For Secondary Education Transition To Teaching Program** (PWL) Sem. 1 and 2. SS. LEC/DIS/EXP arrange hours, experiential with 50- hour field experience. Credit 3.

This sixteen-week course is the capstone methods course for the online Transition to Teaching (TTT) program. Students who enroll in this course will be seeking teaching licensure in one of the secondary program areas available at Purdue University. Therefore, instruction in the course will revolve around general educational concerns and effective teaching approaches that are applicable to all content area instruction at the middle and high school levels. This

course extends engagement with the pedagogical principles of practice introduced in *Transition to Teaching: Pedagogy I*. The course also includes a fifty-hour field experience component. Permission of department required. Typically offered Fall Spring Summer.

Graduate Council Document 20-11d, SLHS 50601, Neural Bases Of Hearing (PWL) Sem. 1. Lecture 3 times per week for 50 minutes. Credit 3.

Section I. Neuroanatomy. Anatomy terminology, overview of cochlear neuroanatomy; afferent and efferent cochlear innervation; auditory nerve formation and termination points in the cochlear nucleus; Neuroanatomy of Cochlear Nucleus, Superior Olivary complex, Nuclei of Lateral lemniscus, Inferior colliculus, Medial geniculate body and the auditory cortex, corticofugal efferent pathways complex.

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

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

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

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

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

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

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

This course is an introduction to measurement strategies and evaluation of data in industry and technology within the context of research design and implementation. Students will learn not only basic statistics in this course but will also learn about the research process by designing, conducting, and analyzing the data for a small empirical research project using real world data. The material in this course is directly relevant to student professional development. Data collection and interpretation are key day-to-day aspects of social and behavioral science, humanities, communication, economics, physical science, biological and medical science, technology, education psychology, business, environmental science, education and government. In addition, the ability to use computers and other technologies around data has become a critical elements in most professional decision-making processes. Typically offered Fall Spring.

Graduate Council Document 20-56b, CIT 58100, Topics In Computer Information Technology (IUPUI) Sem. 1 and 2. SS. Lecture 2 times per week for 75 minutes. Variable Credit 1 to 6.

Advanced study of technical and professional topics relating to computer and information technology. Emphasis is on the cutting edge technologies and new developments relating to advanced information technologies. Permission of instructor required. Typically offered Fall Spring Summer.

Graduate Council Document 20-19f, ME 53101, Particle, Powder, And Compact Characterization (PWL) Sem. 2. Lecture 2 times per week for 75 minutes for 10 weeks. DIS expected to be offered Sp'23, not Sp'21. Credit 2.

The goal of this course is to familiarize students with the properties and methods used to characterize the physical and mechanical behavior of particles, granules, and compacts with the intention of using these properties for process and performance design. Typically offered Spring.

Graduate Council Document 20-19g, ME 53102, Particle, Powder, And Compact Characterization Laboratory (PWL) Sem. 2. Laboratory 2 times per week for 75 minutes for 5 weeks. Credit 1. Prerequisites: ME 53101.

The goal of this laboratory course is to train students on state-of-the-art laboratory equipment used to measure the mechanical properties of particles, granules, powders, and compacts. Typically offered Spring.

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

Graduate Council Document 20-45b, BME 56400, Ethical Engineering Of Medical Technologies (PWL) Sem. 1 and 2. SS. Lecture 3 times per week for 50 minutes. Credit 3.

This course examines many of the ethical challenges surrounding the design, development, and deployment of medical technologies. Issues will be analyzed from multiple frameworks and perspectives including industry, government, and society. Students will learn and practice identification and analysis of ethical issues. They will develop empathic and decision-making

skills designed to prepare them as engineers to deal productively and ethically with issues in professional practice. Typically offered Fall Spring Summer.

*Graduate Council Document 20-45c, **BME 64600, Deep Learning - Theory And Practice Of Deep Neural Networks** (PWL) Sem. 1 and 2. Lecture 2 times per week for 75 minutes. Credit 3.*

This course teaches the theory and practice of deep neural networks from basic principles through state-of-the-art methods. The class blends hands-on programming, using a variety of state-of-the-art programming frameworks, with theoretical treatment based on current literature. Implementation will emphasize the use of the Pytorch language and the use of dynamic computational graphs. Some previous experience with optimization techniques is important for success in the course. Typically offered Fall Spring.

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

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

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

*Graduate Council Document 20-31b, **BIOL 54210, Biometry** (PFW) Sem. 1. Lecture 1 meeting per week for 165 minutes. Credit 3. Prerequisites: STAT 34000, Graduate, or Permission from Instructor.*

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