Graduate Council Curriculum Report

The Graduate Council Curriculum Report (GCCR), which includes all graduate curricular proposals approved through the Graduate Council curricular review process, is published 12 times each calendar year.

Questions/comments regarding the GCCR or its contents may be directed to the Director of Graduate Education Administration.

February 8, 2017

Graduate Degree Programs

NEW

Computational Materials – new graduate minor program (College of Earth and Mineral Sciences), page 5

CHANGE

Educational Leadership – confirm offering of joint J.D. degree program with Penn State Law (College of Education), page 23

Educational Theory and Policy – confirm offering of joint J.D. degree program with Penn State Law (College of Education), page 34

Geographic Information Systems – change to degree requirements (College of Earth and Mineral Sciences), page 43

Higher Education – confirm offering of joint J.D. degree program with Penn State Law (College of Education), page 52

Graduate Courses

ADD

PHS 574
Methods in Clinical and Public Health Intervention Design
CLIN PUB HL INTERV (3)
This course provides students with evidence-based guidelines for designing, adapting, implementing, and evaluating public health programs, clinical research studies, and public health policy. The course will expose students to best practices for developing programs and interventions, challenges faced in research and evaluation, and novel methodological approaches for engaging communities and populations. Classes will be divided into three sections, didactic instruction, case study critique, and interactive discussions with researchers. Didactic instruction will cover pertinent topics such as challenges faced when developing public health programs and interventions, conducting a needs assessment, research evaluation, working with under-served and vulnerable communities, and public
health policy. During the case study critique the instructor or the students (individually or in dyads) will lead the class in a critical review and discussion of case studies related to the topics discussed in class. The research talk and discussion section of the course will consist of presentations and discussions led by academic researchers and individuals working in the private and public sector. Each speaker will describe a research program, project, or evaluation they led or are currently leading. The speaker will describe for the students the population or health topic of interest explored through the program or study, the analytical methods used, the duration of the study, and study challenges and successes. Students will be asked to consider the methods used by each speaker and determine if their approach would be applicable to and effective for their population of interest.

PROPOSED START: SU2017

Wmnst 550
African Feminisms
African feminisms are deeply rooted in the continent’s rich historical traditions and diverse cultural contexts. In this interdisciplinary graduate seminar, students will become familiar with the theoretical frameworks that guide African feminist scholarship, as well as the activist histories from which they emerged. This course will consider the epistemological foundations of African feminist thought and how they differ from feminisms in other parts of the world. This course will also examine key areas of conjuncture—how African feminisms map on to larger transnational movements. Particular emphasis will be placed on the fluidity of African gender systems, the ways in which African women have negotiated politics, religion, militarism, sexuality, and violence, and the role of creativity, art, and beauty in nurturing and sustaining activist momentum. Students in the course can expect to engage with a number of different types of texts: documentaries, feature films, memoirs, novels, newspapers, scholarly books, and articles.

PROPOSED START: FA2017

CHANGE

OLD
BMS 590
Colloquium
COLLOQUIUM (1)
REPEATABLE: YES
MAX TOTAL CREDITS: 4
A series of individual lectures by faculty, students, or outside speakers.
APPROVED START: FA2011

NEW
BMS 590
Colloquium
COLLOQUIUM (1)
REPEATABLE: YES
MAX TOTAL CREDITS: 6
Continuing seminars that consist of a series of individual lectures by faculty, students, or outside speakers.
PROPOSED START: SU2017
OLD  
**CN ED 504**  
Guidance Services in Secondary Education  
GUID SER IN SEC ED (3)  
Nature and scope of guidance in secondary schools – services, models, and strategies; the counselor as an agent of change.  
APPROVED START: SU2011

NEW  
**CN ED 504**  
Foundations and Practices of School Counseling  
FOUND SCH COUNSLING (3)  
This course in school counseling is a broad survey of the foundations, contextual dimensions, and practices of contemporary school counseling in Pre K-12 schools. Students develop knowledge of the roles of school counselors in addressing the development, personal-social, academic, and college-career needs of students in Pre K-12 schools. Students gain an understanding of the practices and interventions necessary for establishing and managing a comprehensive school counseling program. Students learn how current education reform and school contexts shape school counselors’ roles. This course will provide the foundational knowledge necessary for additional school counseling courses.  
PROPOSED START: SU2017

OLD  
**PHS 550**  
Principles of Epidemiology  
EPI PRINCIPLES (3)  
PREREQUISITES: PHS 520  
CONCURRENTS: NONE  
Topics include measurements, surveillance, outbreak investigation, bias, and study design.  
APPROVED START: SP2009

NEW  
**PHS 550**  
Principles of Epidemiology  
EPI PRINCIPLES (3)  
PREREQUISITES: NONE  
CONCURRENTS: PHS 520; STAT 500  
Students will learn to utilize basic epidemiological methods, i.e., design, calculate, analyze, interpret, report, in the examination of public health problems or programs. Topics include measurements, surveillance, outbreak investigation, bias, and study design.  
PROPOSED START: SU2017

OLD  
**SPLED 511**  
Ethical Considerations for Special Education Populations  
SPECIAL ED ETHICS (3)  
RECOMMENDED PREPARATION: NONE  
Discussion of ethical and legal standards in special education.
NEW  
**SPLED 811**  
Ethical Considerations for Special Education Populations  
SPECIAL ED ETHICS (3)  
RECOMMENDED PREPARATION: SPLED 503A  
Ethical behavior is a key component of any human service enterprise. Before a special education teacher or behavior analyst can effectively work with a client or student, they must first establish an environment of trust. This trust is built through ethical behavior on the part of the practitioner. In this class students will learn about the governmental and professional disciplinary standards that regulate the field of behavior analysis in special education. Beyond the letter of the law, students will work through case studies where ethical dilemmas are presented in an effort to tease out the underpinnings of ethical behavior. In this class students will work through five major content areas that are related to ethics in behavior analysis. As a foundation, Federal, State, and Local statutes that pertain to the practice of behavior analysis will be presented. Additionally, other key legal issues such as informed consent and privacy will be discussed. Next, students will learn about definitions of ethics along with the most common ethical dilemmas in the field. Relatedly, students will learn about the reporting of unethical behavior. After the more general treatment of ethics, the class will move on to more formal codes of ethical conduct, which include those promulgated by the Council for Exceptional Children and the Behavior Analyst Certification Board. The final third of the class is focused on ethics within practice and includes topics such as working and communicating with families in a responsible manner and strategies to support ethical behavior. After successfully completing this course students should be able to (a) describe ethical behavior, (b) discuss relevant governmental regulations regarding behavior analysis in schools, (c) discuss the disciplinary standards of the Behavior Analyst Certification Board, (d) discuss the ethical standards of the Council for Exceptional Children, and (e) identify effective communication skills with clients and students.

DROP  
**CN ED 503**  
Guidance Services in Elementary Education  
GUID SERVICE EL ED (3)  
Guidance services to elementary school students; guidance opportunities for elementary teachers and principals.  
PROPOSED DROP: SU2017

**CN ED 595F**  
Secondary School Counseling Internship and Seminar  
SEC CN INTERN SEM  
REPEATABLE: YES  
MAX TOTAL CREDITS: 6  
Off-campus, supervised internships in secondary school settings with supplementary related topics, discussion, and skills training seminars.  
PROPOSED DROP: SU2017
Graduate Council
Program, Option, or Minor Proposal Form

Submit 1 original, signed Graduate Council proposal form and 2 hardcopies of the graduate program proposal document, with a copy of the signed proposal form attached to each proposal copy, to the Curriculum Coordinator, University Faculty Senate, 101 Kern Graduate Building, University Park. The proposals will be transmitted to the Office of the Dean of the Graduate School for entry into the Graduate Council curricular review process; for more information about the process, see the Overview of the Graduate Council Curricular Review Process.

The Program Proposal Procedures provide guidance for the development of a graduate program proposal. If you have questions regarding the preparation of a graduate program proposal or how to complete this Graduate Council proposal form, contact the Office of the Dean of the Graduate School.

College/School: College of Earth and Mineral Science and College of Engineering
Department or Instructional Area: Materials Science and Engineering and Chemical Engineering

New Graduate Program, Option, or Minor: [✓] Add

Designation of new graduate program: ________________________________
Classification of Instructional Programs (CIP) Code: __________________
Designation of new graduate option: ________________________________
Designation of new graduate minor: Computational Materials

Indicate effective semester:
☐ First semester following approval
☐ Second semester following approval

Existing Graduate Program Option, or Minor: [ ] Change [ ] Drop

Current designation of graduate program: ________________________________
Current designation of graduate option: ________________________________
Current designation of graduate minor: ________________________________

New designation of existing graduate program (if changing): ________________________________
New designation of existing graduate option (if changing): ________________________________
New designation of existing graduate minor (if changing): ________________________________

Brief description of the change (if not noted above): ________________________________

Indicate effective semester:
☐ First semester following approval
☐ Second semester following approval

Submitted by Graduate Program Head
Susan Sinnott

Printed name
Signature
Date: 4/15/16

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:
Luis Ayala

Printed name
Signature
Date: 5/9/16

Approved by College/School Dean/Chancellor (or Designee):
John Hellmann

Printed name
Signature
Date:
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On Behalf of John Challis
Printed name
Signature
Date: 2/8/2017

Recommended by Chair, Graduate Council Committee on Programs and Courses:

On Behalf of M. Kathleen Heid
Printed name
Signature
Date: 2/8/2017

Noted by Dean of the Graduate School:

On Behalf of Regina Vasilatos-Younken
Printed name
Signature
Date: 2/8/2017
Proposal for a new graduate minor in “Computational Materials”

Departments submitting the proposal:

Chemical Engineering
Materials Science and Engineering

Contact information:

Michael Janik
John J. and Jean M. Brennan Clean Energy Early Career Professor
Professor of Chemical Engineering
Email: mjanik@engr.psu.edu
Phone: 814-863-9366

Susan Sinnott
Professor and Department Head
Department of Materials Science and Engineering
Email: sbs5563@psu.edu
Phone: 814-863-3117

College Affiliation:
College of Engineering
College of Earth & Mineral Sciences
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Proposal to Establish a Graduate Minor in Computational Materials

a) Justification for the Program

The use of computational modeling tools has become ubiquitous in materials research. Computational tools are used at various scales. Electronic structure methods can help explain and predict material behavior directly from the distributions of electrons and nuclei. Atomistic techniques help connect material structure and dynamics to measurable material properties. Phase-field and other mesoscale approaches connect interfacial and morphological structure to a broad range of properties. The federal “Materials Genome Initiative” has recognized the central role that computing plays in accelerating materials discovery and development.

We propose a new “Computational Materials” graduate minor that will collect foundational and applied courses in computational methods and their application to understand and predict materials properties. This minor will help to integrate graduate computational materials research across the university, guiding students through the available courses in this area. Inclusion of a minor-associated faculty member on student’s thesis committees will help to further integrate the classroom learning into their research. Successful completion of the minor will help students record their expertise in this area with the graduate minor on their academic record.

This minor is being designed as a major component of a new graduate training program supported by the National Science Foundation (NSF), a NSF Research Training (NRT) Grant titled “Computational Materials Education and Training: Bridging ab initio methods and applications (CoMET).” Despite the widespread usage of materials simulation methods across numerous academic disciplines, no training programs exist to assure graduate students attain the necessary fundamental knowledge to choose the proper approaches to a specific materials system, and to assure the fidelity of the data generated. We identified this training need with our NRT proposal, which was one of the few funded by NSF. This new minor is the centerpiece of the CoMET graduate training program, and with it we will establish a graduate curriculum in this area that provides the necessary foundation, and is accessible to graduate students majoring in numerous science and engineering disciplines.

The new minor bridges many science and engineering disciplines, with core courses in the Chemistry, Physics, and Material Science and Engineering
(MATSE) departments and elective courses across numerous science and engineering departments. The minor will be housed in the MATSE Department. MATSE offers an interdisciplinary doctoral program, providing extensive experience that leaves us prepared to coordinate this interdisciplinary minor.

b) Objectives of the Program

The new Computational Materials minor will provide a fundamental graduate education in materials simulation techniques. The objectives of the coursework are to 1) provide foundational courses in materials modeling, offered at various length scales, 2) integrate both broad foundational courses for students interested in a wide range of modeling techniques and/or specialized courses allowing students to develop depth in a specific modeling technique/scale, and 3) provide a flexible set of electives that will assure students are exposed to materials-related phenomena in their area of expertise. The minor will provide students the recognition of having built a background in Computational Materials, as well as the access and oversight of faculty in the minor to help them integrate these concepts with their doctoral research. All Ph.D. students in the minor will be required to have a faculty member from the minor on their thesis committee.

c) New courses to be established for the minor

No new courses are proposed.

d) Program Statement: Course Requirements

The minor requires 15 credits, 9 of which are to be chosen from the list below of “foundational courses” and 6 of which are chosen from a list of options. All 15 of these credits must be passed with a grade of B or higher. At least 12 of the 15 credits must be at the 500 level.

Courses required - Foundational methods courses (9 credits):

Students may choose any 9 credits (3 courses) from the list of:

CHEM 565 (3) Quantum Chemistry I
CHEM 566 (3) Quantum Chemistry II
PHYS 561 (3) Quantum Mechanics I
PHYS 512 (3) Quantum Theory of Solids I
MATSE 419 (3) Computational Materials Science and Engineering
MATSE 544 (3) Computational Materials Science of Soft Materials
MATSE 580 (3) Computational Thermodynamics
MATSE 581 (3) Computational Materials Science II: Continuum, Mesoscale Simulations

These 9 credits are the core of the minor, which provides fundamental training in modeling theory and skills aimed at students doing materials modeling in their research. All of these existing courses, and students across Physics, Chemistry, Chemical Engineering, MATSE, Mechanical Engineering, and related disciplines already complete these courses as electives. All of these courses are offered at a reasonable frequency (annually or biannually, currently) to sustain this minor, and the new CoMET program has motivated commitments from the departments to maintain offering these courses.

**Elective courses (6 credits):**

Two additional elective courses that 1) provide depth in materials-related phenomena at the quantum, atomistic, or mesoscale or 2) build student’s computational skills may be chosen to fit the program and research of the student. The list of courses below are included as initially approved electives for the minor. A list of approved electives will be included on a website for the minor, accessible from the MATSE department webpage, as well as the CoMET webpage. Students may also choose to complete additional courses listed in the “core” list as electives, beyond the required 9 core credits.

List of elective courses:

Chemical Engineering

CH E 510 (3) Surface Characterization of Materials
CH E 524 (3) Chemical Engineering, Application of Thermodynamics
CH E 528 (3) Colloidal Forces and Thermodynamics
CH E 535 (3) Chemical Reaction Engineering
CH E 536 (3) Heterogeneous Catalysis
Chemistry

CHEM 464 (3) Chemical Kinetics and Dynamics
CHEM 511 (3) Chemical Nanoscience
CHEM 516 (3) Inorganic Chemistry
CHEM 517 (3) Organometallic Chemistry
CHEM 518 (3) Symmetry and Spectroscopy in Inorganic Chemistry
CHEM 519 (3) Materials Chemistry
CHEM 526 (3) Spectroscopic Analysis
CHEM 535 (3) Physical Organic Chemistry
CHEM 539 (3) Biochemical Reaction Mechanisms
CHEM 540 (3) Biophysical Chemistry
CHEM 545 (3) Statistical Thermodynamics
CHEM 572 (3) Nucleic Acids Chemistry
CHEM 573 (3) NMR Spectroscopy for Synthetic and Biological Chemistry

Materials Science and Engineering

MATSE 501 (3) Thermodynamics of Materials
MATSE 503 (3) Kinetics of Materials Processes
MATSE 505 (3) Irreversible and Statistical Thermodynamics of Materials
MATSE 506 (3) Interfacial Electrochemical Processes
MATSE 510 (CH E 510) (3) Surface Characterization of Materials
MATSE 511B (GEOSC 511B) (1) Transmission Electron Microscopy
MATSE 512 (GEOSC 512) (3) Principles of Crystal Chemistry
MATSE 514 (3) Characterization of Materials
MATSE 530 (3) X-Ray Crystallography and Diffraction
MATSE 531 (3) Transmission Electron Microscopy
MATSE 535 (3) Geometrical Crystallography
MATSE 540 (3) Crystal Anisotropy
MATSE 543 (CHEM 543) (3) Polymer Chemistry
MATSE 545 (E E 545) (3) Semiconductor Characterization
MATSE 555 (PHYS 555) (3) Polymer Physics I
MATSE 565 (3) Metals in Electronics
MATSE 570 (EME 570) (3) Catalytic Materials

Mechanical Engineering
M E 504 (3) Advanced Engineering Thermodynamics
M E 530 (3) Fundamentals of Combustion
M E 535 (AERSP 535) (3) Physics of Gases
M E 578 (MATH 578) (3) Theory and Applications of Wavelets

Physics

PHYS 510 (3) General Relativity I
PHYS 513 (3) Quantum Theory of Solids II
PHYS 517 (3) Statistical Mechanics
PHYS 518 (3) Critical Phenomena and Field Theory
PHYS 524 (3) Physics of Semiconductors and Devices
PHYS 525 (3) Methods of Theoretical Physics
PHYS 526 (3) Methods of Theoretical Physics II
PHYS 527 (3) Computational Physics and Astrophysics
PHYS 530 (3) Theoretical Mechanics
PHYS 557 (3) Electrodynamics
PHYS 562 (3) Quantum Mechanics II
PHYS 563 (3) Quantum Field Theory I
PHYS 571 (3) Modern Atomic Physics

Computational science courses offered across numerous departments:

ABE 513 (3) Applied Finite Element, Boundary Element, and Finite Difference Methods
ABE 562 / EMCH 562 (3) Boundary element analysis
AERSP 424 (3) Advanced Computer Programming
AERSP 440 (3) Introduction to Software Engineering
AERSP 560 (3) Finite Element Methods
CE 563 (3) Systems Optimization Using Evolutionary Algorithms
CMPSC 450 (3) Concurrent Scientific Computing
CSE 514 (3) Computer Networks
CSE 530 (3) Foundations in Computer Architecture
CSE 531 (3) Parallel processors and processing
CSE 532 (3) Multiprocessor architecture
CSE 543 (3) Interconnection networks in highly parallel computers
CSE / Math 550 (3) Numerical Linear Algebra
CSE / MATH 551 (3) Numerical solution of ordinary differential equations
CSE / MATH 552 (3) Numerical solution of partial differential equations
CSE / MATH 555 (3) Numerical optimization techniques
CSE / MATH 556 (3) Finite element methods
CSE 557 (3) Concurrent Matrix Computation
EGEE 520 (3) Mathematical Modeling in Energy and Geo-Environmental Engineering Systems
ESC 483 (3) Simulation and Design of Nanostructures
EMCH 560 Finite Element Analysis
MATH 523 (3) Numerical Analysis I
MATH 524 (3) Numerical Linear Algebra
MATH / CSE 550 (3) Numerical linear algebra
MATH / CSE 551 (3) Numerical solution of ordinary differential equations
MATH / CSE 552 (3) Numerical solution of partial differential equations
MATH / CSE 555 (3) Numerical optimization techniques
MATH / CSE 556 (3) Finite element methods
MATH 580 (3) Applied Math I
NucE 521 (3) Neutron Transport Theory
NucE 525 (3) Monte Carlo Methods
NucE 530 (3) Parallel/Vector Algorithms for Scientific Applications
Stat 500 (3) Applied Statistics
Stat 501 (3) Regression Methods
Stat 502 (3) Analysis of Variance and Design of Experiments

Minor faculty on graduate committee:

Ph.D. students completing the Computational Materials minor must include a faculty member to represent the minor on their thesis committee. The following is the initial list of faculty approved the represent the minor on the thesis committees, and this list will be kept up to date on the minor’s website accessible from the MATSE Department webpage and the CoMET website:

Kristen Fichthorn, Chemical Engineering and Physics
Michael Janik, Chemical Engineering
Scott Milner, Chemical Engineering
Adri van Duin, Mechanical Engineering and Chemical Engineering
Lasse Jensen, Chemistry
Gerald Knizia, Chemistry
Jorge Sofo, Physics
Vincent Crespi, Physics
Susan Sinnott, Materials Science and Engineering
Zi-Kui Liu, Materials Science and Engineering
Ismaila Dabo, Materials Science and Engineering
Long-Qing Chen, Materials Science and Engineering

e) Admission Requirements

Admission to the minor will require completion of a first core course in the minor, approval from the student’s major Graduate Program Head/Graduate Program Chair/Director of Graduate Studies or Professor-in-Charge, and submission of a minor plan of study (listing intended courses by semester and approved by the student’s intended minor faculty thesis committee member) submitted to the MATSE department graduate program coordinator. A form for the minor plan of study and its approval will be included on the minor website, accessible from the MATSE department webpage and the CoMET website. Graduate students in good standing (with current graduate GPA at or above 3.0) who have approval and who have completed a minor core course with a grade of B or higher will be admitted to the minor.

f) Justification for the Degree Title

The degree title “Computational Materials” reflects the material included in the coursework, with a core in computational application to materials systems. The minor is intended for students who are pursuing thesis research that includes simulation of some material system. Each of “Computational” and “Materials” also reflects an area of expertise that will recognize the student’s knowledge and achievement to potential employers.
g) **Accreditation**

There is no accreditation available or proposed for this graduate minor.

h) **Graduate Bulletin Description**

**Computational Materials**

The use of computational modeling tools is ubiquitous in materials research. The Computational Materials minor provides a fundamental graduate education in materials simulation techniques. The coursework 1) provides foundational courses in materials modeling, offered at various length scales, 2) integrates both broad foundational courses for students interested in a wide range of modeling techniques and/or specialized courses allowing students to develop depth in a specific modeling technique/scale, and 3) provides a flexible set of electives that will assure students are exposed to materials-related phenomena in their area of expertise. The minor provides students the recognition of having built a background in Computational Materials, as well as the access and oversight of faculty in the minor to help them integrate these concepts with their doctoral research.

Admission to the minor will require completion of a first core course in the minor, approval from the student’s major Graduate Program Head/Graduate Program Chair/Director of Graduate Studies or Professor-in-Charge, and submission of a minor plan of study (listing intended courses by semester and approved by the student’s intended minor faculty doctoral committee member) submitted to the MATSE department graduate program coordinator. A form for the minor plan of study and its approval will be included on the minor website, accessible from the MATSE department webpage and the CoMET website. Graduate students in good standing (with current graduate GPA at or above 3.0) who have approval and who have completed a minor core course with a grade of B or higher will be admitted to the minor.

The doctoral minor consists of no fewer than 15 credits, 9 credits of which must be from a list of core minor courses, and 6 credits of which are elective courses. A minimum of 6 credits must be at the 500 level. The core minor courses are:
CHEM 565 (3) Quantum Chemistry I
CHEM 566 (3) Quantum Chemistry II
PHYS 561 (3) Quantum Mechanics I
PHYS 512 (3) Quantum Theory of Solids I
MATSE 419 (3) Computational Materials Science and Engineering
MATSE 544 (3) Computational Materials Science of Soft Materials
MATSE 580 (3) Computational Thermodynamics
MATSE 581 (3) Computational Materials Science II: Continuum, Mesocale Simulations

A list of elective courses is maintained on the minor webpage of the Department of Materials Science and Engineering (www.matse.psu.edu). The minor website also provides a list of faculty who may represent the minor on doctoral committees. The minor is only available to doctoral students. Official requests to add a minor to a doctoral candidate’s academic record must be submitted to Graduate Enrollment Services prior to establishment of the doctoral committee and prior to scheduling the comprehensive examination. At least one Graduate Faculty member from the minor field must serve on the candidate’s doctoral committee.

i) Record of Consultation

Feedback on the minor was requested via email from department heads in all department’s for which courses are included in the core or elective lists of the minor. This included:

Judith Todd – Department of Engineering Science and Mechanics
Chitaranjan Das – Department of Computer Science and Engineering
Patrick Fox – Department of Civil and Environmental Engineering
Philip Morris – Department of Aerospace Engineering
Vasant Honovar – Information Science and Technology
Donald Schneider – Department of Astronomy & Astrophysics
Karen Thole – Department of Mechanical and Nuclear Engineering
Yuxi Zhen – Department of Mathematics
Turgay Ertekin – Department of Energy and Mineral Engineering
Phil Savage – Department of Chemical Engineering
Paul Heinemann – Department of Agricultural and Biological Engineering
David Hunter – Department of Statistics
Thomas Mallouk – Department of Chemistry
Nitin Samarth – Department of Physics

An email was sent on August 31, 2016 requesting feedback, with the text given below:

The MATSE department is proposing a new graduate doctoral minor in “Computational Materials”, and we are requesting your consultation on the new minor. Please note that the new minor includes graduate courses in your department as elective courses allowed in the minor. We would appreciate any feedback you have on the proposed minor. We would appreciate if you could indicate whether you expect the minor to be of interest to students in your PhD program, as well as any concerns (or positive aspects) with having your department’s courses included as elective courses in the minor.

Both the minor proposal and the one page prospectus that is being shared with our Deans is attached.

We would appreciate receiving feedback from you or an appropriate department representative on or before September 14th. Thank you

Susan Sinnott and Mike Janik

We received feedback from a number of department’s. Each of the emails we received is listed below, with our response noted when changes were suggested.

Mark Maroncelli and Tom Mallouk on behalf of Chemistry

I imagine that there will be some interest in this minor among our computational students. As previously I do not foresee that increased enrollments in CHEM 565 and 566 will present a problem.

Mark Maroncelli

I agree that this sounds like a good thing for both MatSE and ChemE, and perhaps for a number of Chemistry students too. I agree that the burden on our enrollments is unlikely to be a problem.

Best regards,

Tom
Nitin Samarth on behalf of Physics

I enthusiastically endorse the proposed minor in Computational Materials. I anticipate that this will be a very useful route to creating a coherently focused yet interdisciplinary effort on an area of contemporary interest to graduate students in condensed matter physics, materials chemistry, and materials science/engineering, as well as other fields.

The proposal is well conceived and I do not have any additional recommendations or revisions.

Nitin

Virenda Puri and Jeff Catchmark on behalf of Agricultural and Biological Engineering

I have the following comments:

1) Concerning the core selections, there is potential for students selecting, for example, Quantum Chemistry I, II, Quantum Mechanics I (core) and 2 others like Heterogeneous catalysts and interfacial Electrochemical Processes – which collectively may not meet the objectives of the program, i.e., 1) provide foundational courses in materials modeling, offered at various length scales, 2) integrate both broad foundational courses for students interested in a wide range of modeling techniques and/or specialized courses allowing students to develop depth in a specific modeling technique/scale.

This is often an issue when many diverse electives exist and may be able to be solved by making the course selection a formal part of the advisory committee activity, i.e., the student must develop a program of study for the minor and have it approved by the advisory committee, who will consider the proposed program in light of the student’s research/educational goals and the objectives of the program. If this is a desired response to the issue, then language to this effect should be included in the proposal. This impacts the admission process (see below). In any case, this should be addressed.

2) Admission to the minor requires completion of the first core course, implying that the course is a part of an approved/appropriate program of study. It may be better if admission involved a proposed program of study (submitted to the advisory committee) before the first course it taken to ensure the entire program of study is appropriate.

3) Concerning ‘minor faculty on graduate committee’ an initial list of faculty is included but since these faculty must be ‘approved’ the process for approval MUST be outlined in detail. Other faculty may wish to join and others may leave. How is this handled? Language on how this impacts the advisory committee overall would be appropriate also, i.e., would this person be in addition to the minimum required number of faculty, for example?

Jeff

I do not have any specific concerns other than those listed by Jeff. In addition, I am fine with listing the two courses that I teach on the Computational Materials Minor list of elective courses.
Virendra Puri

Response: It is not our intent that students necessarily take courses at different length scales, only that the minor provides the opportunity for students to select among courses that allow them either to bridge length scales or concentrate at a single length scale. As such, the students will be free to choose among the core courses and electives in completing the minor without restriction. We expect students in the minor, as in all of our majors, to seek guidance in constructing a program that best fits their interest, and the inclusion of a minor faculty on their graduate committee should make clear that a qualified resource is available to them. As students are welcome to choose among the foundational and elective courses as they see fit, there is no need to approve a plan of study prior to admitting them to the minor. The Materials Science and Engineering graduate program leadership, as stewards of the minor, will review and approve any requests for faculty to be added as faculty representatives of the minor. As with any graduate minor, a graduate committee member must represent the minor, and it is up to the student whether this faculty member also serves as of the other roles (ie, major program or outside member) on their committee, following graduate school guidelines. As this is governed by graduate school policies, it is not specifically discussed in our proposal.

Judith Todd on behalf of Engineering Science and Mechanics:

ESM strongly supports the MATSE new graduate doctoral minor in Computational Materials.

Please include the following courses as electives

E MCH 545 Nanomechanics – Sulin Zhang (in level 10 review and should be approved next month)

E MCH 544 Multiscale Modeling of Materials – Sulin Zhang (in level 3 review due to Grad Assistant transitions in the College of Engineering) This course should be approved by the time the minor is approved.

E SC 483 Simulation and Design of Nanostructures – Melik Demirel (emphasizes materials at the physical/life sciences interfaces)

I have asked our faculty if any other courses should be considered as electives and will send additional electives once I have their feedback.

Judy

Response: The E MCH 544 course was added as an option as a core, foundational course, within the minor (and this communicated to Judy). This course has been previously offered as a 597 and it was our intent to include it within the minor, and Judy’s email made us aware that its approval as a permanent course is in progress. E MCH 545 and E SC 483 were added as electives in the minor.

Turgay Ertekin on behalf of Energy and Mineral Engineering

I have looked at the MATSE Department’s proposal on establishing a new graduate doctoral minor in “Computational Materials.” The EME Department believes that the proposed minor is timely especially within the realm of the importance of nano-materials. The minor would be of interest to EME graduate students who are working on topics in Energy Engineering, Environmental Systems, Mining Engineering and Petroleum and Natural Gas Engineering. We are also happy to provide assistance with the course
that you included in the list of electives from our Department (EGEE 520-Numerical Modeling in Energy and Geo-Environmental Engineering Systems).

Turgay Ertekin

Dave Hunter on behalf of Statistics:

With apologies for the delay in responding, I think that the proposal sounds fine overall. I don’t see it as something that a subset of our PhD students would immediately find applicable, but I’m all for making such options available nonetheless because one never knows.

As a general comment, the level of statistical sophistication implicit in the listing of only two STAT courses is very low: STAT 500 is a very basic course, and none of the natural follow-ups (501 and 502 in particular) are listed. That 557 is the only other STAT course listed is odd, since it has prerequisites and there is no reason to expect that any student for whom STAT 500 needs to be listed explicitly would also possess the prerequisite probability/stochastic processes course for STAT 557.

Response: A number of electives in Statistics could be of interest and applicable for students within the Computational Materials minor, however, as Dave points out, the majors that are most likely to show interest in this minor are unlikely to have the background to take advanced Statistics graduate courses. We modified the listing of electives to include STAT 500 (Applied Statistics), 501 (Regression Methods), and 502 (Analysis of Variance and Design of Experiments) as these represent the initial basic course and logically follow-ups, as noted by Dave. We do not expect students to pursue a more advanced graduate education in Statistics through this minor due to its concentration in computational techniques applied to materials.

j) Written evidence of consultation with the Office for Research Protections regarding SARI requirements.

The Office of Research Protections was contacted regarding any additional SARI requirements associated with the “Computational Materials” minor. Debrah Poveromo responded via email on 7/14/16:

“Everything looks good and I see no reason why any adjustments would be needed beyond the plan for the existing PhD majors. The reason I am email you is I would like to have a copy of the MATSE 582 syllabus for my records. I only have a copy of the MATSE 597 syllabus. I would like to update my records for the SARI program plan. Beyond that, everything looks to be in order for the proposed new SARI PhD minor in Computational Materials.

Please don’t hesitate to email or call if you have any questions or concerns.

Best wishes,

Deb

Debrah A. Poveromo
Research Protections Education Coordinator
Office of Research Protections
The 330 Building, Suite 305
The Pennsylvania State University
University Park, Pa. 16802
dap192@psu.edu
(814) 863-1441

(requested syllabus to help complete her SARI program records was sent to Deb by Susan Sinnott on 7/14/16)
Graduate Council
Program, Option, or Minor Proposal Form

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College/School: Penn State Law (University Park) and Dickinson Law
Department or Instructional Area: Penn State's separate law schools

New Graduate Program, Option, or Minor: [ ] Add
Designation of new graduate program:
Classification of Instructional Programs (CIP) Code:
Designation of new graduate option:
Designation of new graduate minor:

Indicate effective semester:
[ ] First semester following approval
[ ] Second semester following approval

Existing Graduate Program Option, or Minor: [ ] Change [ ] Drop
Current designation of graduate program: J.D./Doctor of Educational Leadership (Ph.D. or D.E.D)
Current designation of graduate option:
Current designation of graduate minor:

New designation of existing graduate program (if changing):
New designation of existing graduate option (if changing):
New designation of existing graduate minor (if changing):

Brief description of the change (if not noted above): Confirming agreement to continue offering the joint degree at both law schools.

Indicate effective semester:
[ ] First semester following approval
[ ] Second semester following approval

Submitted by Graduate Program Head

Gerald Letendre

Printed name
Signature
Date: 6/20/15

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:

Mary C. Schecter

Printed name
Signature
Date: 7/8/15

Approved by College/School Dean/Chancellor (or Designee):

David H. Munk

Printed name
Signature
Date: 7/9/15
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[ ] First semester following approval
[ ] Second semester following approval

Submitted by Graduate Program Head

Gerald LeTendre [Signature] Date: 6/29/15

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:

Mary C. Schuler [Signature] Date: 7/4/15

Approved by College/School Dean/Chancellor (or Designee):

D. W. Moss [Signature] Date: 7/9/15
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

<table>
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<th>On Behalf of John Challis</th>
<th>Signed</th>
<th>Date: 2/8/2017</th>
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Recommended by Chair, Graduate Council Committee on Programs and Courses:

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<th>On Behalf of M. Kathleen Heid</th>
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Noted by Dean of the Graduate School:

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<th>On Behalf of Regina Vasilatos-Younken</th>
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a) Justification Statement
On June 6, 2014, the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association granted acquiescence in the application submitted by the Pennsylvania State University to operate two independent and fully approved law schools. The schools are informally known as Penn State Law, located at the University Park campus, and Penn State Dickinson Law, located in Carlisle, PA.

The Educational Leadership graduate program at the College of the Education had an approved joint degree program with the Penn State Law School when it was one entity. This proposal is submitted to continue the joint degree program between the Educational Leadership graduate program at the College of the Education and Penn State Law at University Park.

b) 

**Educational Leadership (EDLDR)**

[Program Home Page](#)

DANA MITRA, Director of Graduate Studies
302A Rackley Building
814-863-7020

**Degrees Conferred:**

Ph.D., D.Ed., M.Ed.

[The Graduate Faculty](#)

**The Program**

Graduate work in the Educational Leadership program encompasses two major career paths. The first path focuses on those who want to engage in a wide variety of leadership roles within and directly affecting schools and districts. These roles include, but are not limited to teacher leadership, instructional leadership, principal leadership, and district-level leadership. This path may also lead to certification and/or letters of endorsement in supervision, the principalship or the superintendency. The second path focuses on those who want to exercise leadership roles in educational policy arenas and/or engage in educational research. Possible roles include: intermediate unit officials, state and federal agency administrators and staff, professors of educational administration, and research and development personnel. The principalship certification is also available at Penn State Harrisburg. The teacher leadership path and principal certification may also be pursued in the online M.Ed.

The M.Ed. in Educational Leadership is designed for students who wish to pursue leadership positions in educational organizations.
Admission Requirements

Admission requirements listed here are in addition to requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. Applicants apply for admission to the program via the Graduate School application for admission.

The Educational Leadership program requires all graduate program applicants to submit three letters of recommendation, official transcripts from all post-secondary institutions attended, a brief personal statement of intent, and a current resume or CV. Applicants must present evidence of at least a 3.0 grade-point average in the last two years of undergraduate work. A grade-point average of 3.50 in prior graduate work is required of those desiring admission to enter a doctoral program. The best-qualified students will be accepted up to the number of spaces available. Special backgrounds and experiences may allow for conditional admission to those not meeting stated criteria, at the discretion of the program.

Applicants are required to submit a writing sample. For master’s degree applicants, this should be a reflection paper. Doctoral Degree students should submit a writing sample that reviews and critiques an academic article related to education leadership or education policy that affects education leaders.

Official scores from the GRE, the Miller Analogy Test, or the Law School Admissions Test (LSAT) from within the last 5 years are required.

Master's Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin.

All candidates for the M.Ed. degree will complete a minimum of 30 credits, with at least 18 credits at the 500 or 800 level, and at least 6 credits at the 500 level. M.Ed. students also must complete a capstone project as described below.

Certification for various public school administrative positions requires additional graduate work beyond the master's degree and such requirements as specified on the program web page.

The three designated emphases for the M.Ed. are Teacher Leadership, School Leadership, or a "General" M.Ed.:

<table>
<thead>
<tr>
<th>Teacher Leadership (online)</th>
<th>School Leadership (online)</th>
<th>General M.Ed. (residential)</th>
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<tbody>
<tr>
<td>EDLDR 540 Technology Applications in Educational Leadership (3 cr)</td>
<td>EDLDR 540 Technical Applications in Educational Leadership (3 cr)</td>
<td>18 credits of Educational Leadership coursework required, with a total of 30 credits, inclusive of EDLDR 596. Students may</td>
</tr>
<tr>
<td>EDLDR 559 School Improvement (3 cr)</td>
<td>EDLDR 559 School Improvement (3 cr)</td>
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</table>

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select their 18 credits of EDLDR courses from the following: EDLDR 480, 530, 540, 559, 560, 576, 579 or 568. This emphasis is created and defined through the interaction of student and adviser based on the student’s career path.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EDLDR 560</td>
<td>Principles of Instructional Supervision (3 cr)</td>
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<tr>
<td>EDLDR 551</td>
<td>Curriculum Design: Theory and Practice (3 cr)</td>
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<tr>
<td>C I 501</td>
<td>Teaching as Inquiry (3 cr)</td>
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<tr>
<td>EDLDR 801</td>
<td>Introduction to Teacher Leadership (3 cr)</td>
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<tr>
<td>EDLDR 802</td>
<td>How Schools Work (3 cr)</td>
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<tr>
<td>EDLDR 563</td>
<td>Designing Staff Development Programs (3 cr)</td>
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<tr>
<td>ADTED 505</td>
<td>The Teaching of Adults (3 cr) OR EDPSY 421</td>
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<tr>
<td>EDLDR 894A</td>
<td>Capstone Inquiry Course (3 cr)</td>
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<tr>
<td>EDLDR 595</td>
<td>Internship (3 cr)</td>
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</tr>
<tr>
<td>EDLDR 596</td>
<td>Masters Paper (3 cr)</td>
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The final courses in all three emphases (EDLDR 894A, EDLDR 595, and EDLDR 596) are project-based courses that represent the culmination of academic work toward the M.Ed. degree. Course requirements involve the development of a final capstone project focused on evaluation, analysis, or application of concepts first introduced and developed over the course of the student’s M.Ed. program. The project should be planned in coordination with an EDLDR faculty member who agrees to serve as the student’s adviser for this project and must reflect an appropriate degree of graduate-level scholarship, as determined by the adviser.

**Doctoral Degree Requirements**

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin.

Expectations of candidates for both the D.Ed. and Ph.D. are high in the field of research competence and require the ability to identify and conceptualize a research problem for the
thesis. The D.Ed. is more appropriate for those with career goals in administration and policy making. The Ph.D. is more appropriate for those with career goals in research and scholarship.

A minimum of 36 credits is required for the Ph.D.:

- **EDLDR Course Work (15 cr.):** A minimum of 15 credits chosen in conjunction with the student’s academic adviser from a list of areas of concentration and courses that have been approved by the program to fulfill this requirement.
- **Research Course Requirements (12 cr.):**
  - A 3-credit course with statistical focus up to multivariate inference
  - A 3-credit course with focus on qualitative research methods
  - A 3-credit advanced course in either of the above areas (including course work in Mixed Methods)
  - EDLDR 585 Research Design
- **Supporting Field (9 cr.):** A minimum of 9 credits selected from outside of the EDLDR program. All supporting field courses should be at the 500-level or above; however, appropriate 400-level courses may be approved by the adviser. As noted above, a student may choose to have research as a supporting field and substitute additional research courses to fulfill this requirement.

Ph.D. students may not enroll in more than 6 credits of independent study.

A minimum of 90 credits is required for the D.Ed., of which at least 30 credits must be earned in residence at University Park campus. A maximum of 30 credits from a completed master’s degree earned at an institution that does not grant a doctorate in Higher Education may be accepted towards this minimum, subject to limitations listed in the [Transfer Credit section of the Doctoral Degrees Bulletin page](#). A maximum of 60 credits beyond the baccalaureate may be accepted towards this minimum, subject to limitations listed in the [Transfer Credit section of the Doctoral Degrees Bulletin page](#).

The 90 required credits must be earned in the following:

- **Major Field (48 cr.):** In the Major Field Area, D.Ed. students are required to take a minimum of 48 credits in Educational Leadership courses and courses related to the graduate major field. These courses should be selected in consultation with the student’s adviser from a list of areas of concentration and courses that have been approved by the program to fulfill this requirement. If approved, transfer credits may be used to fulfill a portion of this requirement.
- **Minor or General Studies Group (15 cr.):** A [graduate minor](#) can be taken in any approved graduate degree program offered at Penn State, or in one of the approved stand-alone minors. A general studies group may include up to 6 credits taken as part of previous master’s degree. These courses must be taken outside the EDLDR program. Selection of these courses should be done in close consultation with the student’s academic adviser.
- **Special Education Focused Course (3 cr.):** A minimum of 3 credits concerning special education issues in a course approved by the program to fulfill this requirement.
- **Research (9 cr.):**
- 3 credits of quantitative research
- 3 credits of qualitative research
- 3 credits of research design or advanced research methods
- Dissertation Research (15 cr.): EDLDR 600 or 610.

Doctoral students must pass a candidacy examination, a comprehensive written and oral examination, and a final oral examination (the dissertation defense). To earn the Ph.D. or the D.Ed. degree, doctoral students must also write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

**Dual-Title Ph.D., D.Ed., and M.Ed. in Comparative and International Education**

**Admission Requirements**

Students must apply and be admitted to the graduate program in Higher Education and The Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Comparative and International Education dual-title program. Refer to the Admission Requirements section of the [Comparative and International Education Bulletin page](#). Doctoral students must be admitted into the dual-title degree program in Comparative and International Education prior to obtaining candidacy in their primary graduate program.

**Degree Requirements**

To qualify for the dual-title degree, students must satisfy the degree requirements for the degree they are enrolled in Higher Education, listed above. In addition, students must complete the degree requirements for the dual-title in Comparative and International Education, listed on the [Comparative and International Education Bulletin page](#). Some courses may satisfy both Higher Education and Comparative and International Education degree requirements. Final course selection must be approved by the student’s doctoral committee.

The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Higher Education and must include at least one Graduate Faculty member from the Comparative and International Education program. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. There will be a single candidacy examination, containing elements of both Higher Education and Comparative and International Education. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the candidacy examination may be delayed one semester beyond the normal period allowable.

In addition to the [general Graduate Council requirements for doctoral committees](#), the doctoral committee of a Higher Education and Comparative and International Education dual-title Ph.D. student must include at least one member of the Comparative and International Education
Graduate Faculty. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. If the chair of the doctoral committee is not also a member of the Graduate Faculty in Comparative and International Education, the member of the committee representing Comparative and International Education must be appointed as co-chair. The Comparative and International Education representative on the student’s doctoral committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their doctoral committee and reflects their original research and education in Higher Education and Comparative and International Education. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

**Joint Degree Program between Penn State Law (J.D.) and the Educational Leadership Program (M.Ed., D.Ed., Ph.D.)**

Penn State Law (PSL) and the Educational Leadership (EDLDR) Program offer a joint degree program leading to a Juris Doctor (J.D.); and either a Master of Education (M.Ed), a Doctor of Education (D.Ed) or a Doctor of Philosophy (Ph.D.) in Educational Leadership.

**Admission Requirements**

Applicants to the joint degree program must apply and be admitted first to Penn State Law, and subsequently to the Educational Leadership graduate program. Admissions requirements and applications for admission for Penn State Law are listed in the [J.D. Admissions](#) section of the Penn State Law website. The admission requirements for the Educational Leadership graduate program are listed above. When applying to the Educational Leadership graduate program, applicants must include two letters of recommendation from Penn State Law faculty members and a career statement. Applicants to the joint degree program may submit LSAT scores instead of GRE scores. Students must be admitted to the program prior to taking the first course they intend to count towards the graduate degree.

**Residency**

Students will normally spend four semesters in residence at the Law School and as many additional semesters in residence as needed to complete the additional requirements for the pertinent EDLDR degree. Ph.D. candidates must arrange the sequence of semesters to ensure that they are in residence as full-time students in the EDLDR program for at least two consecutive semesters (Fall-Spring or Spring-Fall) excluding summer in a single twelve-month period.

**Degree Requirements**

Students must fulfill all requirements for each degree in order to be awarded that degree, subject to the double-counting of credits as outlined below. Degree requirements for the J.D. program
are listed on the Penn State Law website. Degree requirements for the Ph.D., D.Ed., and M.Ed. degrees are listed above.

**PSL:** A maximum of twelve credits for EDLDR course work may be double-counted for credit toward the J.D. degree at PSL. Students must obtain a grade satisfactory to PSL for the course work to be credited toward the J.D. degree. The following EDLDR courses may qualify for credit in PSL: (1) EDLDR 533 (The Politics of Local School Districts); (2) EDLDR 565 (Personnel Management and Contract Administration); (3) EDLDR 568 (The Principalship); (4) EDLDR 569 (Decision Making in Educational Organizations); (5) EDLDR 573 (Public School Finance); (6) EDLDR 576 (The Law and Education); and (7) EDLDR 577 (The Law and Ethical Decision Making).

**EDLDR:** The courses that may be double-counted will be determined by the student’s degree program. Normally a maximum of twelve credits of PSL course work will be counted for credit for the minimum requirements for a master’s degree, subject to approval by the student’s advisory committee. Normally, a maximum of 30 credits from a master’s degree program will be counted for credit for the minimum requirements for a Ph.D. or D.Ed. degree.

**Sequence:** The sequence of courses will be determined by the students and their advisers.

**Recommended Program of Study and Advising:** All students in the program will have two advisers, one from PSL and one from EDLDR. Periodic interaction between the two advisers is encouraged.

**Tuition:** Students will be charged the applicable PSL tuition to cover the J.D. program and the applicable graduate tuition to cover the EDLDR degree program. PSL tuition will be paid for the semesters in which the student is registered for PSL courses, and graduate tuition will be paid for the semesters in which the student is registered for graduate courses. A student may take up to one course (3 credit hours) per semester in the program where the student is not primarily registered without any change in tuition, but must pay additional tuition to the program that the student is not primarily registered if he or she wishes to take additional course work pursuant to that program during the semester.

**Financial Aid and Assistantships:** Decisions on financial aid and assistantships will be made by each school according to that school’s procedures.

**Fulfillment of Degree Requirements and Graduation:** All courses in one program that will count toward meeting the requirements of the other program must be completed before the awarding of either degree. If students accepted into the joint degree program are unable to complete the J.D. degree, they are still eligible to receive the EDLDR degree if all EDLDR degree requirements have been satisfied.

**Student Aid**
Graduate assistantships available to doctoral students in this program and other forms of student aid are described in the STUDENT AID section of the Graduate Bulletin. Students on graduate assistantships must adhere to the course load limits set forth in the Graduate Bulletin.

Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.
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Designation of new graduate program:
Classification of Instructional Programs (CIP) Code:
Designation of new graduate option:
Designation of new graduate minor:

Indicate effective semester:
☐ First semester following approval
☐ Second semester following approval

Existing Graduate Program Option, or Minor: ☑ Change ☐ Drop
Current designation of graduate program: J.D./Doctor of Educational Theory and Policy (Ph.D.)
Current designation of graduate option:
Current designation of graduate minor:

New designation of existing graduate program (if changing):
New designation of existing graduate option (if changing):
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Brief description of the change (if not noted above): Confirming agreement to continue offering the joint degree at both law schools.

Indicate effective semester:
☐ First semester following approval
☐ Second semester following approval

Submitted by Graduate Program Head

[Signature]

Date: 6/23/15

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:

[Signature]

Date: 7/9/15

Approved by College/School Dean/Chancellor (or Designee):

[Signature]

Date: 7/9/15
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☐ Add

Designation of new graduate program: ____________________________
Classification of Instructional Programs (CIP) Code:  
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☐ Second semester following approval

Existing Graduate Program Option, or Minor: ☑ Change  ☐ Drop

Current designation of graduate program: J.D./Master of Arts (M.A.) in Educational Theory and Policy
Current designation of graduate option: ____________________________
Current designation of graduate minor: ____________________________

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Submitted by Graduate Program Head

Gerald LeTendre  [Signature]  Date: 6/23/15

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:

[Signature]  Date: 9/10/15

Approved by College/School Dean/Chancellor (or Designee):

[Signature]  Date: 9/14/15
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

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<th>Date: 2/8/2017</th>
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Recommended by Chair, Graduate Council Committee on Programs and Courses:

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<tr>
<th>On Behalf of M. Kathleen Heid</th>
<th>Val Kuehntt</th>
<th>Date: 2/8/2017</th>
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Noted by Dean of the Graduate School:

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<tr>
<th>On Behalf of Regina Vasilatos-Younken</th>
<th>Val Kuehntt</th>
<th>Date: 2/8/2017</th>
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a) Justification Statement
On June 6, 2014, the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association granted acquiescence in the application submitted by the Pennsylvania State University to operate two independent and fully approved law schools. The schools are informally known as Penn State Law, located at the University Park campus, and Penn State Dickinson Law, located in Carlisle, PA.

The Education Theory and Policy graduate program at the College of the Education had an approved joint degree program with the Penn State Law School when it was one entity. This proposal is submitted to continue the joint degree program between the Education Theory and Policy graduate program at the College of the Education and Penn State Law at University Park.

b)

Educational Theory and Policy (EDTHP)

Program Home Page (Opens New Window)

DANA MITRA, Director of Graduate Studies
302A Rackley Building
814-863-7020
EDTHP@psu.edu

Degrees Conferred:
Ph.D., M.A.

The Graduate Faculty

Admission Requirements

Admission requirements listed here are in addition to requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. Applicants apply for admission to the program via the Graduate School application for admission.

Scores from the Graduate Record Examinations (GRE) are required for admission. The best-qualified applicants will be accepted up to the number of spaces that are available for new students. Students with a 2.75 grade-point average will be considered for admission to the master's program, and with a 3.00 grade-point average at the master's level for the Ph.D.
program. Exceptions to the minimum grade-point average may be made for students with special backgrounds, abilities, and interests, at the discretion of the program.

Master's Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin.

Candidates who seek an M.A. in Educational Theory and Policy shall complete programs that will include studies in social theory, policy, and planning or in the social sciences or humanities.

A minimum of 36 credits is required, with at least 18 credits in the 500 and 600 series combined, and a minimum of 6 credits of thesis research (600 or 610). There are 12 credits required in the following core courses: EDTHP 500 (3 cr.), and 9 credits of Research Methods, consisting of EDTHP 585 (3 cr.), EDPSY 406 or another approved statistics course, and EDTHP 586. The remaining elective credits may be chosen from a list of approved electives maintained by the program office. Only 3 credits of EDTHP 596 (Independent Study) may be counted toward the M.A.

A thesis is required. The thesis must be accepted by the advisers and/or committee members, the head of the graduate program, and the Graduate School.

Doctoral Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin.

Candidates who seek a Ph.D. in Educational Theory and Policy shall complete programs that will include studies in social theory, policy, and planning, or in the social sciences or humanities.

A minimum of 57 credits is required:

- EDTHP 500 (3 cr.)
- Research Methods (12 cr.): EDTHP 585 (3 cr.), EDTHP 586 (3 cr.), and 6 additional credits approved by the program to fulfill this requirement.
- Theory Foundations (9 cr.): a minimum of 9 credits in 500-level EDTHP courses approved by the program to fulfill this requirement.
- Policy Foundations (9 cr.): EDTHP 587 (3 cr.), and 6 additional credits approved by the program to fulfill this requirement.
- Focused Program of Study (9 cr.): a minimum of 9 credits chosen in consultation with the adviser to prepare students for dissertation research. Students will need to explain how the three chosen courses will have prepared them for their dissertation research. This justification will become a part of the candidacy materials routed to all EDTHP faculty for approval. The course work must have a unifying theme. It does not have to be taken in the EDTHP program.
Electives (15 cr.): the remaining elective credits may be chosen from a list of approved electives maintained by the program office.

Doctoral students must pass a candidacy examination, a comprehensive written and oral examination, and a final oral examination (the dissertation defense). To earn the Ph.D. degree, doctoral students must also write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

**Dual-Title Ph.D. and M.A. in Comparative and International Education**

**Admission Requirements**

Students must apply and be admitted to the graduate program in Educational Theory and Policy and The Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Comparative and International Education dual-title program. Refer to the Admission Requirements section of the Comparative and International Education Bulletin page. Doctoral students must be admitted into the dual-title degree program in Comparative and International Education prior to obtaining candidacy in their primary graduate program.

**Degree Requirements**

To qualify for the dual-title degree, students must satisfy the degree requirements for the degree they are enrolled in Educational Theory and Policy, listed above. In addition, students must complete the degree requirements for the dual-title in Comparative and International Education, listed on the Comparative and International Education Bulletin page. Some courses may satisfy both Educational Theory and Policy and Comparative and International Education degree requirements. Final course selection must be approved by the student's doctoral committee.

The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Educational Theory and Policy and must include at least one Graduate Faculty member from the Comparative and International Education program. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. There will be a single candidacy examination, containing elements of both Educational Theory and Policy and Comparative and International Education. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the candidacy examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for doctoral committees, the doctoral committee of an Educational Theory and Policy and Comparative and International Education dual-title Ph.D. student must include at least one member of the Comparative and International Education Graduate Faculty. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. If the chair of the doctoral committee is not also
a member of the Graduate Faculty in Comparative and International Education, the member of the committee representing Comparative and International Education must be appointed as co-chair. The Comparative and International Education representative on the student’s doctoral committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their doctoral committee and reflects their original research and education in Educational Theory and Policy and Comparative and International Education. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

**Joint Degree Program between Penn State Law (J.D.) and the Educational Theory and Policy Program (M.A. & Ph.D.)**

Penn State Law (PSL) and the Educational Theory and Policy (EDTHP) Program offer a joint degree program leading to a Juris Doctor (J.D.); and either a Master of Arts (M.A.) or a Doctor of Philosophy (Ph.D.) in Educational Theory and Policy.

**Admission Requirements**

Applicants to the joint degree program must apply and be admitted first to Penn State Law, and subsequently to the Educational Theory and Policy graduate program. Admissions requirements and applications for admission for Penn State Law are listed in the J.D. Admissions section of the Penn State Law website. The admission requirements for the Educational Theory and Policy graduate program are listed above. When applying to the Educational Theory and Policy graduate program, applicants must include two letters of recommendation from Penn State Law faculty members and a career statement. Applicants to the joint degree program may submit LSAT scores instead of GRE scores. Students must be admitted to the program prior to taking the first course they intend to count towards the graduate degree.

**Residency**

Students will normally spend four semesters in residence at PSL and as many additional semesters in residence as needed to complete the additional requirements for the pertinent EDTHP degree. Ph.D. candidates must arrange the sequence of semesters to ensure that they are in residence as full-time students in the EDTHP program for at least two consecutive semesters (Fall-Spring or Spring-Fall) excluding summer in a single twelve-month period.

**Degree Requirements**

Students must fulfill all requirements for each degree in order to be awarded that degree, subject to the double-counting of credits as outlined below. Degree requirements for the J.D. program
are listed on the Penn State Law website. Degree requirements for the M.A. and Ph.D. degrees are listed in the Master’s Degree and Doctoral Degree Requirements section above.

**PSL:** A maximum of twelve credits for EDTHP course work may be double-counted for credit toward the J.D. degree at PSL. Students must obtain a grade satisfactory to PSL for the course work to be credited toward the J.D. degree. The following EDTHP courses may qualify for credit in PSL: (1) EDTHP 518 (Analysis of U.S. Educational Policy); EDTHP 520 (Theoretical Perspectives on School Reform); (3) EDTHP 533 (Social History and Educational Policy); (4) EDTHP 541 (Contemporary Philosophies of Education); and (5) EDTHP 587 (Education Policy and Politics).

**EDTHP:** The courses that may be double-counted will be determined by the student's degree program. Normally a maximum of twelve credits of PSL course work will be double-counted for credit for the minimum requirements for a master's or doctoral degree, subject to approval by the student's advisory committee.

**Sequence:** The sequence of courses will be determined by the students and their advisers.

**Recommended Program of Study and Advising:** All students in the program will have two advisers, one from PSL and one from EDTHP. Periodic interaction between the two advisors is encouraged.

**Tuition:** Students will be charged the applicable PSL tuition to cover the J.D. program and the applicable graduate tuition to cover the EDTHP degree program. PSL tuition will be paid for the semesters in which the student is registered for PSL courses, and graduate tuition will be paid for the semesters in which the student is registered for graduate courses. A student may take up to one course (3 credit hours) per semester in the program where the student is not primarily registered without any change in tuition, but must pay additional tuition to the program that the student is not primarily registered if he or she wishes to take additional course work pursuant to that program during the semester.

**Financial Aid and Assistantships:** Decisions on financial aid and assistantships will be made by each school according to that school's procedures.

**Fulfillment of Degree Requirements and Graduation:** All courses in one program that will count toward meeting the requirements of the other program must be completed before the awarding of either degree. If students accepted into the joint degree program are unable to complete the J.D. degree, they are still eligible to receive the EDTHP degree if all EDTHP degree requirements have been satisfied.

**Student Aid**

Graduate assistantships available to doctoral students in this program and other forms of student aid are described in the STUDENT AID section of the Graduate Bulletin. Students on graduate assistantships must adhere to the course load limits set forth in the Graduate Bulletin.
Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

EDUCATION THEORY AND POLICY PROGRAM (EDLDR) course list

EDUCATIONAL THEORY AND POLICY (EDTHP) course list

HIGHER EDUCATION (HI ED) course list
Graduate Council
Program, Option, or Minor Proposal Form

Submit 1 original, signed Graduate Council proposal form and 2 hardcopies of the graduate program proposal document, with a copy of the signed proposal form attached to each proposal copy, to the Curriculum Coordinator, University Faculty Senate, 101 Kern Graduate Building, University Park. The proposals will be transmitted to the Office of the Dean of the Graduate School for entry into the Graduate Council curricular review process; for more information about the process, see the Overview of the Graduate Council Curricular Review Process.

The Program Proposal Procedures provide guidance for the development of a graduate program proposal. If you have questions regarding the preparation of a graduate program proposal or how to complete this Graduate Council proposal form, contact the Office of the Dean of the Graduate School.

College/School: Earth and Mineral Sciences
Department or Instructional Area: Earth and Mineral Sciences Geology

New Graduate Program, Option, or Minor: □ Add

Designation of new graduate program:
Classification of Instructional Programs (CIP) Code: 
Designation of new graduate option:
Designation of new graduate minor:

Indicate effective semester:
□ First semester following approval
□ Second semester following approval

Existing Graduate Program Option, or Minor: □ Change □ Drop

Current designation of graduate program: MGIS
Current designation of graduate option:
Current designation of graduate minor:

New designation of existing graduate program (if changing):
New designation of existing graduate option (if changing):
New designation of existing graduate minor (if changing):

Brief description of the change (if not noted above): Change degree requirement for this program

Indicate effective semester:
□ First semester following approval
□ Second semester following approval

Submitted by Graduate Program Head
Anthony C. Robinson
Printed name
Signature
Date: 9/16/16

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:
Printed name
Signature
Date: 10/12/16

Approved by College/School Dean/Chancellor (or Designee):
John R. Hellmann
Printed name
Signature
Date: 11/7/2016
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On Behalf of John Challis

Printed name
Signature

Date: 218/2017

Recommended by Chair, Graduate Council Committee on Programs and Courses:

On Behalf of M. Kathleen Heid

Printed name
Signature

Date: 218/2017

Noted by Dean of the Graduate School:

On Behalf of Regina Vasilatos-Younken

Printed name
Signature

Date: 218/2017
GEOG 584 to GEOG 871:

"This proposal changes the current MGIS bulletin listing to reflect a renumbering of GEOG 584 to its new number GEOG 871. No additional changes to the MGIS bulletin are proposed at this time."
Old Bulletin:

**GEOG 584: Geospatial Technology Project Management** (3) Principles of effective project management applied to the design and implementation of geospatial information systems.
Effective: Summer 2004
Prerequisite: GEOG 583

New Bulletin:

**GEOG 871: Geospatial Technology Project Management** (3) Principles of effective project management applied to the design and implementation of geospatial information systems.
Effective: Summer 2017
Prerequisite: GEOG 583
The Program

The Master of Geographic Information Systems (M.G.I.S.) degree is awarded to students who demonstrate mastery of the technical competencies and leadership skills required to design, manage, and use geographic information technologies successfully in a wide range of professional fields. The M.G.I.S. program is intended specifically for working professionals who are able to participate only on a part-time basis and at a distance. It is offered exclusively through World Campus. The M.G.I.S. complements, but does not replace, the Department of Geography's more research-focused Master of Science program, which is offered at the University Park campus. Students who expect to pursue the Ph.D. in Geography should apply for admission to the residential M.S. program.

Admission Requirements

Requirements listed here are in addition to requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. Applicants apply for admission to the program via the Graduate School application for admission.

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. Consult the English Proficiency section of the Graduate Bulletin Application and Admission Procedures page for more information.

Additional requirements imposed by the Department of Geography include:

- Statement of professional experience and goals including documentation of a minimum two years of professional experience, preferably (but not necessarily) related to
geographic information technologies. A résumé may be attached as a supplement, but the statement itself should be an essay (two to three pages) that demonstrates the applicant's verbal communication skills;

- Three letters of recommendation that attest to the applicant's readiness for graduate study and that he or she has the requisite minimum of two years of professional experience;
- **Official transcripts from all post-secondary institution attended**, including the institution that conferred the applicant's baccalaureate degree (and any graduate degrees, if applicable). Official Graduate Records Examinations (GRE) score reported directly from the testing center to Penn State. GRE scores are required; however, this requirement may be waived at the discretion of the program. Please contact the [graduate program directly](#) for information on obtaining a waiver of the GRE requirement.

Credits earned at other institutions but not used to earn a degree may be applied toward the requirements for a graduate degree, subject to restrictions outlined in the [Transfer Courses](#) section of the *Graduate Bulletin*.

### Degree Requirements

Requirements listed here are in addition to requirements stated in the [DEGREE REQUIREMENTS](#) section of the *Graduate Bulletin*.

Students earn the M.G.I.S. degree by successfully completing 35 credits of course work, including a supervised independent project. Course requirements include a minimum of 18 credits at the 500 or 800 level, with at least 6 credits at the 500 level. The culminating experience for the degree is an independent project completed while enrolled in GEOG 596. A minimum of 6 credits and a maximum of 9 credits of GEOG 596 will count towards the degree. The independent project demonstrates the student's ability to apply advanced knowledge and skills related to geographic information systems in a way that makes a substantial contribution to his or her professional work. For most students, the project culminates in a formal public presentation, attended by a member of the graduate faculty associated with the M.G.I.S. program, which takes place at an appropriate professional conference. Alternative arrangements are made for students with special needs or constraints. For example, students who submit written reports of project aims and outcomes for publication in adviser-approved peer-reviewed journals are exempt from the public presentation requirement. Presentations and papers are preceded by dress rehearsals that are open to all students in the program through Web and audio conferencing. As part of his or her individual studies, every student is expected to contribute a formal peer review of one other student's rehearsal.

### PRESCRIBED COURSES

#### MASTER OF GEOGRAPHIC INFORMATION SYSTEMS

**GEOGRAPHY (GEOG)**

- 482. The Nature of Geographic Information (2)
OR

- 864. Professionalism in GIS&T (2)
- 483. Problem-Solving with GIS (3)
- 484. GIS Database Development (3)
- 583. Geospatial System Analysis and Design (3)
- 871. Geospatial Technology Project Management (3)
- 586. Geographical Information Analysis (3)
- 596. Individual Studies (6-9)

In lieu of specified prescribed and elective courses, MGIS students may elect to substitute those for courses that comprise an option. There are two option choices: Geospatial Intelligence Option (15 credits) and Geodesign Option (9 credits).

GEOSPATIAL INTELLIGENCE OPTION

In lieu of 8 credits of prescribed introductory courses (GEOG 482 or 864 + 483 + 484) plus 7 additional elective credits, M.G.I.S. students may substitute 15 credits associated with courses that comprise the Geospatial Intelligence Option. This option is designed for current or aspiring practitioners in government agencies, businesses, and non-governmental organizations that rely on insights produced through skillful, knowledgeable, and conscientious analysis of diverse geo-referenced data to plan for emergencies, to coordinate responses to natural and human induced disasters, to enforce the law, and to plan and conduct military operations.

Core required courses: GEOG 583 (3), GEOG 586 (3), GEOG 871 (3), and GEOG 596 (6-9).

Courses required for the option (15 cr.):

GEOGRAPHY (GEOG)

- 571. Intelligence Analysis, Cultural Geography, and Homeland Security (3)
- 882. Geographic Foundations of Geospatial Intelligence (3)
- 883. Remote Sensing for the Geospatial Intelligence Professional (3)
- 884. Geographic Information Systems for the Geospatial Intelligence Professional (3)
- 885. Advanced Analytic Methods in Geospatial Intelligence (3)

GEODESIGN OPTION

In lieu of 3 credits of a prescribed introductory course (GEOG 484) plus 6 additional elective credits, M.G.I.S. students may substitute 9 credits associated with courses that comprise the Geodesign Option. This option is designed for current or aspiring professionals in government agencies, businesses, and non-profit organizations who see limitations in current regional and urban planning and design approaches, and who seek a foundation in geospatially-based design through investigating the methods and collaborative nature of the Geodesign process.
Core required courses: GEOG 482 or GEOG 864 (2), GEOG 483 (3), GEOG 583 (3), GEOG 586 (3), GEOG 871 (3), and GEOG 596 (6-9).

Courses required for the option (9 cr.):

**GEODESIGN (GEODZ)**

511. Geodesign History, Theory, Principles (3)

**GEOGRAPHY (GEOG)**

487. Environmental Applications of GIS (3)
865. Cloud and Server GIS (3)

**Student Aid**

Graduate assistantships are not available. World Campus students in graduate degree programs may be eligible for financial aid. Refer to the Tuition and Financial Aid section of the World Campus website for more information.

**Courses**

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

**GEOGRAPHY (GEOG) courses**

**GEODESIGN (GEODZ) courses**

Last Revised by the Department: Spring Semester 2014

Blue Sheet Item #: 42-07

Review Date: 06/10/2014

Faculty linked: 8/14/14
# Graduate Council Program, Option, or Minor Proposal Form

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<td>Department or Instructional Area:</td>
<td>Penn State's separate law schools</td>
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**New Graduate Program, Option, or Minor:** ☐ Add

Designation of new graduate program: 
Classification of Instructional Programs (CIP) Code: 
Designation of new graduate option: 
Designation of new graduate minor: 

Indicate effective semester:  
☑ First semester following approval  
☐ Second semester following approval

**Existing Graduate Program Option, or Minor:** ☑ Change  ☐ Drop

Current designation of graduate program: J.D./Doctor of Higher Education (Ph.D. or D.Ed.)
Current designation of graduate option:  
Current designation of graduate minor:  

New designation of existing graduate program (if changing):  
New designation of existing graduate option (if changing):  
New designation of existing graduate minor (if changing):  

Brief description of the change (if not noted above): Confirming agreement to continue offering the joint degree at both law schools.

Indicate effective semester:  
☐ First semester following approval  
☑ Second semester following approval

**Submitted by Graduate Program Head**  
Gerald LeTendre  
Signature:  
Date: 7/2/15

**Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:**  
Mary C. Sheeler  
Signature:  
Date: 7/8/15

**Approved by College/School Dean/Chancellor (or Designee):**  
David H. Wolk  
Signature:  
Date: 7/9/15
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College/School: Penn State Law (University Park) and Dickinson Law
Department or Instructional Area: Penn State’s separate law schools

New Graduate Program, Option, or Minor: Add

Designation of new graduate program:
Classification of Instructional Programs (CIP) Code: 
Designation of new graduate option:
Designation of new graduate minor:

Indicate effective semester:
- [ ] First semester following approval
- [ ] Second semester following approval

Existing Graduate Program Option, or Minor: Change
Drop

Current designation of graduate program: J.D./Master of Education (M.Ed.) in Higher Education
Current designation of graduate option:
Current designation of graduate minor:

New designation of existing graduate program (if changing):
New designation of existing graduate option (if changing):
New designation of existing graduate minor (if changing):

Brief description of the change (if not noted above):
Confirming agreement to continue offering the joint degree at both law schools.

Indicate effective semester:
- [ ] First semester following approval
- [ ] Second semester following approval

Submitted by Graduate Program Head

[Signature] Date: 7/2/15

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:

[Signature] Date: 7/2/15

Approved by College/School Dean/Chancellor (or Designee):

[Signature] Date: 7/9/15
### Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

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a) Justification Statement
On June 6, 2014, the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association granted acquiescence in the application submitted by the Pennsylvania State University to operate two independent and fully approved law schools. The schools are informally known as Penn State Law, located at the University Park campus, and Penn State Dickinson Law, located in Carlisle, PA.

The Higher Education graduate program at the College of the Education had an approved joint degree program with the Penn State Law School when it was one entity. This proposal is submitted to continue the joint degree program between the Higher Education graduate program at the College of the Education and Penn State Law at University Park. This proposal also drops the Master of Science (M.S.) degree, which is no longer being offered.

b)

Higher Education (HI ED)

[Program Home Page (Opens New Window)]

DANA MITRA, Director of Graduate Studies
302A Rackley Building
814-863-7020
sgb13@psu.edu

Degrees Conferred:
Ph.D., D.Ed., M.Ed.

The Graduate Faculty

Higher Education

Higher Education (World Campus)

The Program

The graduate program in Higher Education has as its goal the preparation of individuals who will pursue careers and exert leadership in postsecondary education as administrators, faculty, or researchers in the nation's colleges and universities and in a variety of public and private agencies and associations in the United States and other nations. With emphasis on the systematic study of higher education, the program builds on the scholarly and scientific disciplines offered throughout the University and applies these studies to the professional
functions and responsibilities that its graduates will assume, and to the knowledge of the field of
higher education.

The Higher Education program offers the Ph.D. and D.Ed. at the doctoral level, and a M.Ed. at
the master’s level, and a minor in Higher Education in residence at the University Park campus.
The Higher Education program also offers the M.Ed via World Campus

With mounting awareness of the changes occurring in various academic and professional fields,
of the need for higher education reform, and of the need for improved articulation among the
various levels of education, higher education faculty cooperates with other departments of the
University on research projects, assistantships, internships, and professional development
experiences.

Admission Requirements

Admission requirements listed here are in addition to requirements stated in the GENERAL
INFORMATION section of the Graduate Bulletin. Applicants apply for admission to the
program via the Graduate School application for admission.

Doctoral applicants must submit test scores from either the GRE, GMAT, or LSAT, taken no
more than 5 years prior to the application date. Master’s applicants must submit test scores from
either the GRE, GMAT, or LSAT, taken no more than 5 years prior to the application date. At
the discretion of the head of the graduate program, an applicant may be admitted without these
scores. Test scores are not required for M.Ed. applicants who have either: 1) completed three
years of full-time professional experience in higher education; 2) a Master’s degree in another
field; or 3) completed the Institutional Research Certificate Program at Penn State.

Applicants must also submit a resume, a statement of purpose, and three letters of
recommendation.

Students in the M.Ed., D.Ed., and Ph.D. programs may begin the program in either the fall or
spring semester, or in the summer session.

Ph.D. Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE
REQUIREMENTS section of the Graduate Bulletin.

A minimum of 66 credits is required:

- Core Courses (15 cr.): HIED 548 Curriculums in Higher Education (3 cr.); HIED 552
  Administration in Higher Education (3 cr.); HIED 554 History of American Higher
  Education (3 cr.); HIED 556 Higher Education Students and Clientele (3 cr.); and HIED
  562 Organizational Theory and Higher Education (3 cr.).
- Specialization in Higher Education (12 cr.): 12 credits in additional HIED course work.
• Research Requirements (12 cr.): HIED 585 Research Design: Implications for Decisions in Higher Education (3 cr.); HIED 586 Qualitative Methods in Educational Research (3 cr.); Statistics (e.g. STAT 500; EDPSY 406) (3 cr.); and 3 additional credits approved by the program to fulfill this requirement.
• Advanced Research Skills (9 cr.): Determined in consultation with student’s adviser and approved by the program to fulfill this requirement.
• Cognate or Minor (15 cr.): A list of acceptable cognate areas and their required courses is maintained by the program. A graduate minor can be taken in any approved graduate degree program offered at Penn State, or in one of the approved stand-alone minors.
• Proposal Course (3 cr.): HIED 594 (3 cr.).

Doctoral students must pass a candidacy examination, a comprehensive written and oral examination, and a final oral examination (the dissertation defense). To earn the Ph.D. degree, doctoral students must also write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

D.Ed. Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin.

A minimum of 90 credits is required, of which at least 30 credits must be earned in residence at University Park campus. A maximum of 30 credits from a completed master’s degree earned at an institution that does not grant a doctorate in Higher Education may be accepted towards this minimum, subject to limitations listed in the Transfer Credit section of the Doctoral Degrees Bulletin page. A maximum of 60 credits beyond the baccalaureate may be accepted towards this minimum, subject to limitations listed in the Transfer Credit section of the Doctoral Degrees Bulletin page.

Of the 90 required credits, 72 credits must be earned in the following:

• Core Courses (15 credits): HIED 548 Curriculums in Higher Education (3 cr.); HIED 552 Administration in Higher Education (3 cr.); HIED 554 History of American Higher Education (3 cr.); HIED 556 Higher Education Students and Clientele (3 cr.); and HIED 562 Organizational Theory and Higher Education (3 cr.).
• Specialization in Higher Education (12 cr.): 12 credits in additional HIED course work.
• Research Requirements (12 credits): HIED 585 Research Design: Implications for Decisions in Higher Education (3 cr.) and HIED 586 Qualitative Methods in Educational Research (3 cr.). Students choose the remaining research credits with the approval of their adviser (e.g., EDPSY 406 Applied Statistical Inference for the Behavioral Sciences (3 cr.), EDPSY 505 Statistical Applications in Educational Research (3 cr.), STAT 500 Applied Statistics (3 cr.), STAT 501 Regression Methods (3 cr.), or RSOC 573 Methods of Survey Data Analysis (3 cr.).
• Minor or General Studies Group (15 cr.): A graduate minor can be taken in any approved graduate degree program offered at Penn State, or in one of the approved stand-alone
minors. A general studies group may include up to 6 credits taken as part of previous master’s degree, and must be approved by the doctoral committee.

- Proposal Course (3 cr.): HIED 594 (3 cr.).
- Dissertation (15 cr.): HIED 600 or 610.

In addition, the program may require a 9-credit Internship depending on students’ previous professional experience in higher education administration. If the 9-credit internship is required, then 9 credits of electives may be chosen from a list of approved electives maintained by the program office, to reach the minimum total of 90 required credits. If the 9-credit internship is not required, then 18 credits of electives may be chosen from a list of approved electives maintained by the program office, to reach the minimum total of 90 required credits.

Doctoral students must pass a candidacy examination, a comprehensive written and oral examination, and a final oral examination (the dissertation defense). To earn the D.Ed. degree, doctoral students must also write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

M.Ed. Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin.

A minimum of 30 credits is required, with at least 18 at the 500 or 800 level, and at least 6 at the 500 level. The 30 required credits must include:

- HIED 490 Professional Seminar in Higher Education (3 cr.)
- HIED 545 Foundations of Higher Education and Student Affairs (3 cr.)
- HIED 552 Administration in Higher Education (3 cr.)
- HIED 556 Higher Education Students and Clientele (3 cr.)
- Either HIED 504 Research and Assessment in Student Affairs or HIED 801 Foundations of Institutional Research or (3 cr.)
- Emphasis Area in Higher Education (6 cr.): Students will choose an emphasis area to tailor a program of study to fit an intended career path, in consultation with their adviser. A list of acceptable emphasis areas and their required courses is maintained by the program.
- Elective Courses (6 cr.): Students will choose from a list of approved electives maintained by the program office, in consultation with the student’s adviser.
- Culminating Experience in Higher Education (3 cr.): HIED 596 Individual Studies (3 cr.)

This course provides students the opportunity to demonstrate knowledge and skills they have developed during the program in a culminating project that, in turn, may showcase their interests and abilities as they seek employment beyond graduation. In addition, students will self-assess their relative progress towards the intended learning outcomes of the program.
Dual-Title Ph.D., D.Ed., and M.Ed. in Comparative and International Education

Admission Requirements

Students must apply and be admitted to the graduate program in Higher Education and The Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Comparative and International Education dual-title program. Refer to the Admission Requirements section of the Comparative and International Education Bulletin page. Doctoral students must be admitted into the dual-title degree program in Comparative and International Education prior to obtaining candidacy in their primary graduate program.

Degree Requirements

To qualify for the dual-title degree, students must satisfy the degree requirements for the degree they are enrolled in Higher Education, listed above. In addition, students must complete the degree requirements for the dual-title in Comparative and International Education, listed on the Comparative and International Education Bulletin page. Some courses may satisfy both Higher Education and Comparative and International Education degree requirements. Final course selection must be approved by the student's doctoral committee.

The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Higher Education and must include at least one Graduate Faculty member from the Comparative and International Education program. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. There will be a single candidacy examination, containing elements of both Higher Education and Comparative and International Education. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the candidacy examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for doctoral committees, the doctoral committee of a Higher Education and Comparative and International Education dual-title Ph.D. student must include at least one member of the Comparative and International Education Graduate Faculty. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. If the chair of the doctoral committee is not also a member of the Graduate Faculty in Comparative and International Education, the member of the committee representing Comparative and International Education must be appointed as co-chair. The Comparative and International Education representative on the student’s doctoral committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their doctoral committee and reflects their original research and education in Higher Education and Comparative and International Education. Upon completion
of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

Joint Degree Program between Penn State Law (J.D.) and the Higher Education Program (M.Ed., D.Ed., Ph.D.)

Penn State Law (PSL) and the Higher Education (HIED) Program offer a joint degree program leading to a Juris Doctor (J.D.); and either a Master of Education (M.Ed), a Doctor of Education (D.Ed), or a Doctor of Philosophy (Ph.D.) in Higher Education.

Admission Requirements

Applicants to the joint degree program must apply and be admitted first to Penn State Law, and subsequently to the Higher Education graduate program. Admissions requirements and applications for admission for Penn State Law are listed in the J.D. Admissions section of the Penn State Law website. The admission requirements for the Higher Education graduate program are listed above. When applying to the Higher Education graduate program, applicants must include two letters of recommendation from Penn State Law faculty members and a career statement. Applicants to the joint degree program may submit LSAT scores instead of GRE scores. Students must be admitted to the program prior to taking the first course they intend to count towards the graduate degree.

Residency

Students will normally spend four semesters in residence at PSL and as many additional semesters in residence as needed to complete the additional requirements for the pertinent HIED degree. Ph.D. candidates must arrange the sequence of semesters to ensure that they are in residence as full-time students in the HIED program for at least two consecutive semesters (Fall-Spring or Spring-Fall) excluding summer in a single twelve-month period.

Degree Requirements

Students must fulfill all requirements for each degree in order to be awarded that degree, subject to the double-counting of credits as outlined below. Degree requirements for the J.D. program are listed on the Penn State Law website. Degree requirements for the Ph.D., D.Ed., and M.Ed. degrees are listed above.

PSL: A maximum of twelve credits for HI ED course work may be double-counted for credit toward the J.D. degree at PSL. Students must obtain a grade satisfactory to PSL for the course work to be credited towards the J.D. degree. The following HI ED program may qualify for credit in PSL: (1) HI ED 545 (Higher Education in the United States); (2) HI ED 552 (Administration in Higher Education); (3) HI ED 560 (Legal Issues in Higher Education); (4)HI ED 546 (College Teaching) and (5) HI ED 587 (Education Policy and Politics).
HI ED: The courses that may be double-counted will be determined by the student's degree program. Normally a maximum of twelve credits of PSL course work will be counted for credit for the minimum requirements for a master's degree, subject to approval by the student's advisory committee. Normally, a maximum of 30 credits from a master's degree program will be counted for credit for the minimum requirements for a Ph.D. or D.Ed. degree.

Sequence: The sequence of courses will be determined by the students and their advisors.

Recommended Program of Study and Advising: All students in the program will have two advisers, one from PSL and one from HI ED. Periodic interaction between the two advisors is encouraged.

Tuition: Students will be charged the applicable PSL tuition to cover the J.D. program and the applicable graduate tuition to cover the HI ED degree program. PSL tuition will be paid for the semesters in which the student is registered for PSL courses, and graduate tuition will be paid for the semesters in which the student is registered for graduate courses. A student may take up to one course (3 credit hours) per semester in the program where the student is not primarily registered without any change in tuition, but must pay additional tuition to the program that the student is not primarily registered if he or she wishes to take additional course work pursuant to that program during the semester.

Financial Aid and Assistantships: Decisions on financial aid and assistantships will be made by each school according to that school's procedures. Generally, assistantships and financial aid granted by HI ED will not apply to time spent at PSL.

Fulfillment of Degree Requirements and Graduation: All courses in one program that will count toward meeting the requirements of the other program must be completed before the awarding of either degree. If students accepted into the joint degree program are unable to complete the J.D. degree, they are still eligible to receive the Higher Education degree if all Higher Education degree requirements have been satisfied.

Student Aid

Graduate assistantships available to doctoral students in this program and other forms of student aid are described in the STUDENT AID section of the Graduate Bulletin. Students on graduate assistantships must adhere to the course load limits set forth in the Graduate Bulletin.

Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.