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.

May 9, 2018

Graduate Degree Programs

ADD

**Epidemiology** – new graduate program offering the Ph.D. in residence (College of Medicine), page 14

**Public Policy** – new graduate program offering the M.P.P. degree in residence (College of the Liberal Arts), page 45

CHANGE

**Agricultural and Biological Engineering** – adopt the dual-title in International Agriculture and Development for the M.S. and Ph.D. degrees (College of Agricultural Sciences), page 107

**Anthropology** – add a joint M.D./Ph.D. degree with the College of Medicine (College of the Liberal Arts), page 122

**Anthropology** – change degree requirements for the M.A. degree (College of the Liberal Arts), page 143

**Art** – change degree requirements for the M.F.A. degree (College of Arts and Architecture), page 161

**Astronomy and Astrophysics** – change degree requirements for the M.S. degree (Eberly College of Science), page 174

**Media Studies** – add a joint J.D./M.A. degree with Penn State Law (Donald P. Bellisario College of Communication), page 185
Graduate Courses

ADD

**BUSAD 829**  
Data Analysis in Finance  
FIN DATA ANALYSIS (3)  
Financial markets produce huge amounts of data, which poses a big challenge for financial institutions. This course provides students with the necessary knowledge and skills to analyze financial data to extract valuable insights in order to facilitate financial decisions. This course focuses on how statistical methods and data mining techniques can be used to analyze real financial data.  
PREREQUISITES: BUSAD 525  
PROPOSED START: FA2018

**METEO 820**  
Time Series Analytics for Meteorological Data  
TIME SERIES ANALYT (3)  
This course provides practical guidance in the quantitative analysis of large weather and climate time series datasets for incorporation into an analytical modeling system. Students will learn a variety of methods for identifying key temporal patterns in atmospheric datasets, modeling methods based on patterns, trend analyses in climate datasets, advanced modeling methods, frequency domain analyses, and spatial-temporal visualization techniques specific to meteorology. Furthermore, data reduction techniques will be discussed for working with big weather and climate datasets. Specific emphasis will be placed on preparing environmental data for analysis, data visualization techniques, correctly selecting appropriate analyses, validating results, and realistic interpretations of results. Case studies will augment the discussion on the various time series methods with the goal being to broaden the student’s perspective on the use of weather and climate data for forecasting and modeling as it pertains to decision making.  
PREREQUISITES: METEO 810, METEO 815  
PROPOSED START: FA2018

**METEO 825**  
Predictive Analytic Techniques for Meteorological Data  
PREDICTIVE TECHNQS (3)  
This course provides practical guidance in forecast systems of weather and climate variables for incorporation into decision-making systems. Students will learn a variety of methods for prognostic modeling of categorical and continuous variables, measuring forecast accuracy, and assessing results through Monte Carlo simulations. Ensemble environmental forecasting techniques will also be presented. Specific emphasis will be placed on the strengths and limitations of each technique, validating assumptions for particular forecast methods, and assessing the results of the weather or climate model using a variety of statistical techniques. Numerous examples and case studies will augment discussion of the techniques with the goal being to grow the student’s knowledge on weather and climate forecasting and its usage in decision-making.  
PREREQUISITES: METEO 820  
PROPOSED START: FA2018
METEO 830  
Weather and Climate Analytics Applications  
WEA ANALYT APPL (1)  
The goal of weather and climate analytics is to better inform decision-makers on the probability of adverse and advantageous weather events. This course will adopt a case study approach whereby students learn to create a weather and climate analytics analysis and presentation. Emphasis will be placed on framing a problem with appropriate research, collecting and analyzing historical data, developing appropriate analytical modeling, and presenting results and recommendations. As preparation for synthesizing their own project, students will scrutinize multiple examples of weather and climate analytic studies from a variety of industries and sectors. Furthermore, the course will provide multiple opportunities for students to receive guidance and feedback from their instructor, fellow classmates, and industry professionals.  
PREREQUISITES: METEO 825  
PROPOSED START: FA2018

PHS 503  
Nutritional Epidemiology  
NUTRITIONAL EPIDEM (3)  
This course will examine how epidemiological designs can be applied to study the role of diet and other related lifestyle factors in chronic disease. The interrelationship between diet and other lifestyle factors will be discussed (physical activity, smoking). Learning about these issues is addressed within the context of the diet & cancer, but can be applied to other disease outcomes.  
CROSS-LISTED: NUTR 503  
PROPOSED START: FA2018

PPOL 503  
Statistics for Public Policy I  
STATISTICS I (3)  
This course provides a foundation for both evaluating and conducting quantitative analysis of public policy. The first third of the course examines foundational issues of conducting quantitative analysis of public policy. It does so by reviewing the basic elements of the foundations of such analysis, including the logic of scientific analysis, issues of philosophy of science, measurement theory (validity and reliability), and the elements of research design associated with internal and external validity as they apply to designs common in policy analysis. The remaining two-thirds of the course sequentially examines the use of basic statistical techniques in public policy analysis, including descriptive statistics (frequency distributions, measures of central tendency, and measures of dispersion), probability (the normal, binomial, poisson and other probability distributions), inferential statistics (hypothesis testing, estimating population proportions, and testing differences between two groups), and the analysis of nominal and ordinal data (constructing and analyzing simple and control contingency tables). The course provides a foundation for studying more advanced quantitative analysis techniques, such as regression analysis and related techniques. Throughout the course, the several statistical analysis techniques will be examined through their application to typical public policy problems. The goal of the course is to enable students to become familiar with the basic elements of quantitative analysis of public policy, to enable them to evaluate statistical evidence bearing on public policy decisions, and to conduct basic statistical analysis on public policy questions, all of which are essential for professional careers in public policy.
PPOL 506
Statistics for Public Policy II
STATISTICS II (3)
This course prepares students for both evaluating and conducting quantitative analysis of public policy using regression and regression-like techniques of statistical analysis. It does so by reviewing the logic of simple and multiple regression and the inferences that can be drawn from such analysis about public policy questions. The course then reviews the detection of violations of the assumptions of the regression model (specification error, heteroskedasticity, serial correlation, collinearity, nonlinearity, nonadditivity, and measurement error), their implications for valid inference, and their correction using extensions of basic regression analysis. The course will also examine regression-like techniques for nominal and ordinal dependent variables and their statistical evaluation. Throughout the course, the several regression analysis techniques will be examined through their application to typical public policy problems. The goal of the course is to enable students to become familiar with the elements of quantitative analysis of public policy using regression analysis, to enable them to evaluate such evidence bearing on public policy decisions, and to conduct regression analysis on public policy questions, all of which are essential for professional careers in public policy.
PREREQUISITES: PPOL 503
PROPOSED START: FA2018

PPOL 805
Bureaucracy and the Policy Process
BUREAUCRACY (3)
This course examines the role of bureaucracy in the public policy process. Bureaucracies are critical actors in the conceptualization of policy problems, formulating policy solutions, and implementing public policies, whether directly through government or via the market. Public agencies are also the locus of many public policy careers. We will analyze how public agencies and their employees at all levels of government survive and sometimes prosper within an intensely political environment. The course briefly examines the relationship between politics and policy as first developed in public administration as the politics/administration dichotomy, then via the concept of overhead democracy within political science, and finally in contemporary economics and political science via public choice theory and principal agent models. Second, to better understand this transition in approaches to understanding of bureaucracy, the course develops a working model of bureaucratic politics by examining the motivations of relevant actors and their complex political environment(s). And third, this model is employed to examine the enduring problem of political control of the bureaucracy, with emphasis on evaluating a number of alternative and competing institutional strategies designed to enhance control. This first of these strategies is via hierarchy as expressed via principal-agent analysis. After outlining the logic of agency theory, the course looks closely at the relationship between bureaucracy and political executives, legislators, courts, and non-governmental actors. This strategy of controlling bureaucracy in the policy process is then contrasted with three others: limited government, non-bureaucratic provision of services by quasi-markets, and competitive bureaucracy in which agencies are designed to compete with each other. The goals of the course are to become first broadly familiar with the issue of bureaucratic politics and then how this influences each stage of the policy process. Beyond that, the goals include an appreciation of the nature of the bureaucratic control problem and the various strategies designed to address it.
PREREQUISITES: PPOL 801
PROPOSED START: FA2018
PPOL 809
Public Policy Analysis
POLICY ANALYSIS (3)
This course provides students an overview of prospective public policy analysis as a means of informing public policy choice. That is, it examines how analysis techniques can be used to assess whether proposed policy solutions are likely to solve policy problems. The scientific logic underlying formal prospective public policy analysis is discussed before turning to identifying policy problems, conceptualizing public policies from economic, organizational, and political perspectives, and identifying public policy alternatives as well as the criteria for assessing their likely policy consequences and political and organizational feasibility. Several formal methods of prospective public policy analysis are discussed, including a family of back-of-the-envelope techniques, forecasting methods, simulation methods, discounting for probability, risk, and time, cost-benefit analysis, and political and organizational analysis addressing feasibility. Such formal analyses are not, of course, the only type of information used in the policy formulation and adoption process. Thus, the limits on the role of formal analysis in the policy process are discussed along with the effective reporting of formal prospective public policy analyses.
PREREQUISITES: PPOL 503, PPOL 506
PROPOSED START: FA2018

PPOL 810
Policy and Program Evaluation
POLICY & PROG EVAL (3)
This course provides students an overview of public policy and program evaluation as a scientifically-based means of assessing whether such programs and policies are effective after they have been adopted and implemented. The scientific logic underlying evaluation research is discussed before turning to conceptualizing public policies and programs as testable hypotheses. After then reviewing measurement theory and its application to public policies and programs, the course discusses the inferential validity criteria used to assess a variety of research designs. A major portion of the course will entail an in-depth discussion of several different research designs, including their logic, implementation, strengths, and weaknesses. These will include discussions of pre-experimental, experimental, correlational, interrupted time series, regression discontinuity, comparison group, case study, and nested research designs. Ethical and other practical problems of constructing evaluation research in the field are examined. Finally, the reporting of evaluation research results along with utilization problems associated with evaluation reports are discussed. The goals of the course include enabling students to both critically interpret evaluation research reports and to design, conduct, and report evaluation studies of public policies and programs.
PREREQUISITES: PPOL 803, PPOL 806
PROPOSED START: FA2018

PPOL 811
Project Design and Methods
PROJECT DESIGN (3)
The capstone project is the culminating course in the Master of Public Policy (M.P.P.) program, in which students demonstrate their ability to design and execute a significant public policy analysis project in their area of public policy specialization. Successful completion of the project is a final demonstration that students can perform the professional work of public policy analysts. Capstone projects will likely be a prospective analysis of a policy proposal or a retrospective program or policy evaluation. Indeed, students may build on the policy analysis research proposals they developed in earlier courses. Students are strongly encouraged to do one or the other of these two types of projects, although other types of analysis projects may be submitted for approval to the M.P.P. program. This course will take students
through the conceptualization, measurement, analysis, and reporting stages of their projects.

**PREREQUISITES: PPOL 809, PPOL 810**

**CONCURRENTS: PPOL 894**

**PROPOSED START: FA2018**

**REST 550**
Contemporary Issues in Real Estate Markets

CONTEMP MKT ISSUES (3)

This course surveys important issues in real estate markets, including special characteristics of real estate markets, valuation of real properties, mortgage mechanics and calculations, valuing investment opportunities, financing corporate real estate, financing project development, and the secondary mortgage market.

After taking this course, students will be able to:

1. Demonstrate understanding of basic features of real estate markets;
2. Value real estate using the sales comparison approach and the income approach;
3. Conduct mortgage-related calculations and make mortgage-financing decisions;
4. Calculate before and after tax cash flows from income properties;
5. Make investment decisions for income properties, and conduct sensitivity analysis;
6. Conduct sensitivity analysis, partition Internal Rate of Return (IRR), and apply the real option approach in making investment decisions;
7. Make real-estate-related decisions for non-real estate firms;
8. Demonstrate understanding of the financing of project development;
9. Know cash-flow mechanics and risk-sharing attributes of some mortgage-backed securities;
10. Demonstrate understanding of Real Estate Investment Trusts (REITs) and their role in real estate investment.

**PROPOSED START: FA2018**

**REST 575**
Quantitative Analysis for Real Estate

QUANT ANALYSIS (3)

The course provides students with working knowledge of some of the widely used quantitative methods and their applications in business, as well as using statistical analysis software to apply such methods for business analyses and decision-making. By the end of the course, students will understand the purposes of these methods and how to use them to solve real estate, financial, marketing, and risk management problems.

- Students will be able to interpret results in ways that are correct, insightful, and useful.
- Students will be aware of potential problems of each method and know how to make corrections if these problems are present.
- Students will also have developed working knowledge of statistical analysis software widely used by quantitative analysts.

**PREREQUISITES: STAT 500**

**PROPOSED START: FA2018**

**REST 830**
Real Estate Institutions and Markets Analysis

INST & MKT ANALYS (1)

This course has three objectives: a) provide an overview of modern real estate analysis, b) overview of risk management, and c) develop a series of analytical techniques associated with real estate risk analysis. The course begins with an overview of issues in real estate and risk management. Focus then
shifts to a series of legal issues, including property rights and regulations. The remainder of the course deals with the economic and financial evaluation of real estate.

PROPOSED START: FA2018

REST 840
Real Estate Analysis Software and Tools
ANALYSIS TOOLS (1)
This course will provide a comprehensive overview of the leading real estate industry software used for financial and investment analysis. These software programs provide a platform for investment and valuation analysis of individual properties as well as portfolios. Students successfully completing this course will be prepared to sit for various industry certification exams.
After successfully completing this course, students will be able to:
• Accurately implement a discounted cash flow model
• Perform real estate portfolio analysis
• Perform real estate valuation analysis and conduct sensitivity analysis
• Demonstrate understanding of the basic inputs to cash flow models.
• Create standard industry investment and valuation reports
• Conduct market analysis.
PROPOSED START: FA2018

SPAN 519
Current Statistical Practice in Language Science
STATS LANG SCIENCE (3)
Our primary goal in this course is to explore how to analyze and interpret quantitative data in language science. Part of this goal will be to gain familiarity and proficiency with a range of quantitative techniques common in language science. Reflecting trends in the field, linear and logistic mixed effects regression will be a major focus in addition to more well-known (e.g. ANOVA, multiple regression, chi-square) techniques. We will also spend some time exploring other methods such as multidimensional scaling, generalized additive modeling, and conditional inference trees, as well as more specialized techniques (e.g. drift-diffusion modeling). A more important goal is to learn to think critically about quantitative data and how we can learn from it. This includes a critical view of quantitative research in general, questions of measurement, the many decisions involved in analytic strategy, model structure and interpretation, and the ability to extend students' knowledge to new techniques independently.
CROSS-LISTED: LING 519
RECOMMENDED PREPERATIONS: Students should have taken an introductory graduate level course in statistics, or advanced undergraduate coursework. Experience with regression is also recommended, and prior familiarity with common software packages used for statistical analysis in language science is beneficial.
PROPOSED START: FA2018

CHANGE

OLD
AEREC 550
International Economic Development and Agriculture
ECON DEV (3)
The economic development process with particular emphasis on agriculture.
PREREQUISITES: ECON 502
APPROVED START: SP2011
NEW
EEFE 550
International Economic Development and Agriculture
INTL ECON DEV (3)
This course applies economic analysis to problems of economic development and growth. The course covers the economics of traditional (Malthusian) societies, transitions to modern economic growth, fertility and population growth, investments and intergenerational transmission in human capital, human capital and economic growth, and internal migration and structural transformation. Students who successfully complete this course will be able to demonstrate understanding of, articulate, and use in their own research economic models, theories, and applied research in these topics related to developing countries.
PREREQUISITES: EEFE 510, EEFE 512

OLD
AFR 534
Political Economy of Energy and Extractive Industries in Africa (Oil and Mining)
AFRICA OIL & MINING (3)
Students will examine how the expansion of petroleum and mining industries has impacted Africa's political economies and external relations.
CROSS-LISTED: PLSC 534
APPROVED START: SP2013

NEW
AFR 534
Political Economy of Energy and Extractive Industries in Africa (Oil and Mining)
AFRICA OIL & MINING (3)
Given the rising global demand for energy and resources, Africa’s production of oil and solid minerals has already produced very significant positive as well as negative impacts on the continent’s political, economic, and social conditions. This seminar examines the extractive industry-driven changes in Africa’s political economy, as well as in the continent’s foreign relations. Students will examine the institutional basis under which the expansion of the industry is taking place in Africa. This will involve discussions of the institutional characteristics of Africa, including issues of land tenure and property rights laws, how institutional systems are changing in order to facilitate the industry’s expansion, and the repercussions of these changes upon society. The course also interrogates the relevance of international efforts to mitigate some of the adverse impacts of the industry. Among such efforts is the UN Guiding Principles for Business and Human Rights. Overall this seminar examines the industry’s impact on Africa’s socioeconomic development and global relations, and concludes with how African countries might deal with the adverse impact of the Oil and Mining industry.
CROSS-LISTED: PLSC 534, INTAF 534

OLD
BUSAD 511
New Ventures 1
NEW VENTURES 1 (3)
Introduction to the issues involved in the development of new ventures within existing business organizations or from start-up.
PREREQUISITES: 6 graduate credits in business
APPROVED START: SP2005
NEW

BUSAD 811
New Ventures Ideation and Feasibility Analysis
NV Ideation (3)
BUSAD 811 focuses on the ideation process and determining whether an idea has commercial potential in both an entrepreneurial and intrapreneurial setting. In order to see and evaluate opportunities, students learn about entrepreneur characteristics; develop skills such as marshaling resources (HR, legal, financial, operational, and technical) needed to introduce the product or service into the market place; and developing an entrepreneurial team.
RECOMMENDED PREPERATION: 6 credits in business or by permission

OLD

BUSAD 522
New Ventures 2
NEW VENTURES 2 (3)
Examines the financial and legal issues that are critical in the formation, development, and management of new ventures.
PREREQUISITES: BUSAD 511 or by permission
APPROVED START: SP2005

NEW

BUSAD 822
New Venture Start-up
NV START-UP (3)
Examines the financial and legal issues that are critical in the formation, development, and management of new ventures. The focus of the course is on the methods of funding and cash flow management for the new enterprise, as well as the underlying legal issues that impact new ventures. This course builds on the foundation of the required finance course to give students an overview of the various legal issues that are critical to new venture development.
RECOMMENDED PREPERATION: 6 credits in business or by permission

OLD

BUSAD 527
Fixed Income Securities
FIXED INCOME SEC (3)
Analysis and valuation of fixed income securities and interest rate derivatives.
PREREQUISITES: FINAN 518, BUSAD 525
APPROVED START: SU2006

NEW

BUSAD 827
Fixed Income Securities
FIXED INCOME SEC (3)
This course focuses on the various fixed income securities including bonds (treasury, corporate, municipal), mortgage-backed securities, asset-backed securities, interest rate derivatives, and credit derivatives. It will build upon that knowledge in order to understand fixed income portfolio management, with focus on portfolio construction, managing versus a benchmark, and measuring and managing risks.
PREREQUISITES: FIN 808, FIN 813

OLD
BUSAD 582
Social Entrepreneurship and Community Leadership
SOC ENT/COMM LDSHP (3)
This course will provide an opportunity for students to explore concepts of developing and leading businesses that create social value.
CROSS-LISTED: LEAD 582
PREREQUISITES: MGMT 501 for MBA students or completion of 24 credits in the MLD program for MLD students.
APPROVED START: FA2011

NEW
BUSAD 882
Social Entrepreneurship and Community Leadership
SOC ENT/COMM LDSHP (3)
This course uses entrepreneurial and leadership skills to craft innovative responses to social needs. Entrepreneurs are particularly good at recognizing opportunities, exploring innovative approaches, mobilizing resources, managing risks, and building viable, sustainable enterprises. Entrepreneurial skills are just as valuable in the social sector as they are in for-profit business. Social Entrepreneurship aims at social impact but does not exclude economic wealth creation. Therefore it is not limited to the non-profit sector. Despite a sustained economic boom in this country, numerous social problems remain and some seem to be getting worse. The course will provide an overview of business leadership and entrepreneurship principles for both profit and non-profit organizations whose products and services are designed to create social value.
CROSS-LISTED: LEAD 882
RECOMMENDED PREPERATION: Completion of 24 credits in the MLD program for MLD students

OLD
EME 529
Foundations of Economic Welfare Analysis
FOUND ECON WELFARE (3)
How do we know which forms of economic organization are preferred to others? How do we evaluate who wins and loses within the economic sphere? How do we know when the allocation of goods and services by the economic system is societally optimal? How do we define what is societally optimal? When do government policies improve societal welfare and when do they worsen it? How do we measure societal welfare? When should governments intervene in the economic system and to what extent? How large should the economic system be relative to the natural system? How much should present generations consume relative to future ones?
Welfare economics is a branch of economics that seeks to answer these questions. In this course we will develop the concepts and tools needed to do so. Our primary focus will be on evaluating the efficiency and equity implications of public policies using modern theory and empirical methods.
In the first part of the course we review the ways in which we can and cannot quantify the welfare of economic agents. We begin by reviewing the foundations of microeconomic theory which we use to analyze how the welfare of economic agents is altered due to exogenous changes in prices and/or income.
Using these welfare measures, in the second part of the course we examine how public policies affect the welfare of economic agents using tools from public finance. Since our ultimate goal is applying
welfare theory to empirical questions we will also review in part the empirical methods and tools required for conducting state of the art research in this area.

APPROVED START: SU2017

NEW
EEFE 529
Foundations of Economic Welfare Analysis
ECON WELFARE ANALY (3)
How do we know which forms of economic organization are preferred to others? How do we evaluate who wins and loses within the economic sphere? How do we know when the allocation of goods and services by the economic system is societally optimal? How do we define what is societally optimal? When do government policies improve societal welfare and when do they worsen it? How do we measure societal welfare? When should governments intervene in the economic system and to what extent? How large should the economic system be relative to the natural system? How much should present generations consume relative to future ones?

Welfare economics is a branch of economics that seeks to answer these questions. In this course we will develop the concepts and tools needed to do so. Our primary focus will be on evaluating the efficiency and equity implications of public policies using modern theory and empirical methods.

In the first part of the course we review the ways in which we can and cannot quantify the welfare of economic agents. We begin by reviewing the foundations of microeconomic theory which we use to analyze how the welfare of economic agents is altered due to exogenous changes in prices and/or income.

Using these welfare measures, in the second part of the course we examine how public policies affect the welfare of economic agents using tools from public finance. Since our ultimate goal is applying welfare theory to empirical questions we will also review in part the empirical methods and tools required for conducting state of the art research in this area.

PREREQUISITES: ECON 510, ECON 512

OLD
FIN 508
Analysis of Financial Markets
ANAL FIN MKTS (3)
Analysis of factors affecting price determination in financial markets.
APPROVED START: Winter 1978

NEW
FIN 808
ANALYSIS FIN MKTS (3)
This course is an overview of financial markets and institutions, with an emphasis on the valuation of fixed income securities and financial derivatives. Topics will include: determinants of interest rates; the term structure of interest rates; various financial markets including money, bond, stock, and foreign exchange markets; financial derivatives including options, futures, and swaps; and the financial markets.
PREREQUISITES: FIN 531

OLD
MGMT 523
Organizational Change: Theory and Practice
ORGAN CHANGE (3)
Analysis of research, theory, and practice in dynamics of organizational change. Research literature
reviewed for evaluation of concepts and methods.
APPROVED START: FA1989

NEW

MGMT 823
Organizational Change: Theory and Practice
ORGANIZ CHANGE (3)
The primary purpose of MGMT 823 is to provide students with an overview of current theory and practice in organizational change and development. The primary aim of organizational development is to enhance organizational performance by improving the fit between individuals and the organization, as well as between the organization and its environment, all amidst ever-changing surroundings. This course will discuss current theories, models, research, techniques, and approaches to organizational change as well as the implications of change for organizational transformation and reconceptualization of management philosophies, principles, practices, and behavior that leads to high performance. The application of management and leadership skills required to manage change are of primary interest in contemporary organizations and is the main focus of this course.

OLD

MGMT 561
Global Strategy and Organization
GLOBAL STRAT (1-3)
The course focuses on three major aspects of international business: competitive strategy, organization design, and management processes.
PREREQUISITES: Second year of MBA Program or graduate status in another program
APPROVED START: FA2008

NEW

MGMT 861
Global Strategy and Organization
GLOBAL STRAT & ORG (2)
The course focuses on the "strategic" challenges facing the multinational firm. The types of questions that we address are: Why do firms go abroad? What differentiates a "global" from a "multi-domestic" industry? What are the sources of competitive advantage in a global context? Why and when do/should companies engage in cross-border strategic alliances? What are the associated risks and how to guard against them? What potential roles can foreign subsidiaries play in an MNC's global strategy? How do companies choose an optimal global structure? How do companies ensure coordination between the center and the subsidiaries and among subsidiaries? How do companies manage strategic change from one type of global strategy to another?

OLD

SSED 533
Research in the Teaching of Social Studies
RES TECHNG SOC ST (3)
Procedures and methods of research for the teaching of social studies, strategies of investigation, and review of research literature.
PREREQUISITE: 12 credits in the social sciences at the 400 or 500 level and teaching experience
APPROVED START: FA1983
NEW
SSED 533
Research on Social Studies Education
RSRCH SOC ST ED (3)
This course examines current and influential theory and research on social studies education in the context of K-12 schools and curriculum. The field of social studies education is broad and inclusive of different disciplines and academic content that relate to the social education of learners: histories of countries, peoples, social groups, movements, and the world; historical narratives and counternarratives of identities and heritage; notions of citizenship/civic belonging, civic engagement, and social justice; politics and ideologies; media and technology; sociology and sociocultural analyses; economic development, equity, and socioeconomic analyses; geography and world cultures; globalization and globalism; place and environments; and the interplay of individuals, groups, and institutions. How is social content positioned (or neglected) in school curriculum and educational policy? How is social content taught by teachers and learned by young people? How is that learning assessed and used? What are the implications for how young people learn about the world, cultures, social phenomena, and the past? These are kinds of questions that the social studies education research field explores.
This course offers an overview of the research base and significant current scholarship on social studies education. It provides students with a grounding in reading and analyzing that literature, synthesizing ideas from across bodies of research, and applying research findings and interpretations to curricular and educational work. Course activities and assignments give students exposure to critically evaluating this research and scholarship and applying research findings to educational practice, curriculum design, professional development, or future academic inquiry.
RECOMMENDED PREPERATION: Teacher certification and/or teaching experience in K-12 Social Studies or a related subject
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 Office of the Dean of the Graduate School, 211 Kern Building, University Park. 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 Medicine
Department or Instructional Area: Public Health Sciences

New Graduate Program, Option, or Minor: Add
Designation of new graduate program: Doctorate in Epidemiology (Ph.D. EPID)
Classification of Instructional Programs (CIP) Code: 
Designation of new graduate option: 
Designation of new graduate minor: 
Indicate effective semester: Fall 2018
   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
Duanping Liao
Printed name
Signature
Date: 18/1/2017

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:
Rebecca Craven
Printed name
Signature
Date: 8/16/2017

Approved by College/School Dean/Chancellor (or Designee):
Craig Hemenway
Printed name
Signature
Date: 8/16/17
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On Behalf of C. Andrew Cole
Printed name
Signature
Date: 5/19/2018

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

On Behalf of M. Kathleen Heid
Printed name
Signature
Date: 5/19/2018

Noted by Dean of the Graduate School:

On Behalf of Regina Vasilatos-Younken
Printed name
Signature
Date: 5/19/2018
Penn State Graduate School:

The Department of Public Health Sciences is submitting the attached proposal to initiate a PhD program in Epidemiology.

Epidemiology is the study of the distribution and determinants of health-related states or events (including diseases) in specified human populations, and the application of this study to the prevention and control of health problems. Epidemiology is one of the important components of public health (along with biostatistics, behavioral science, health services administration, and environmental health), and an Epidemiology PhD program will continue to advance the Department of Public Health Sciences toward its goal of becoming an accredited School of Public Health. The Council on Education for Public Health, the accrediting body, requires that a school of public health have three established doctoral programs. Currently, the Department of Public Health Sciences offers two doctoral programs, a PhD in Biostatistics and a Doctor of Public Health.

The College of Medicine has approved of the proposal, as indicated by the letters from the Dean, the Vice Dean for Research and Graduate Education, and the Associate Dean for Graduate Education, that appear near the end of the proposal.

The Department of Public Health Sciences has 14 doctoral-level faculty members in its Division of Epidemiology. These faculty members are excited about the opportunity to offer a PhD program, and many of them are well-established researchers with external grant funding.

In summary, the Department of Public Health Sciences is well-positioned and excited to offer a PhD in Epidemiology. The success of such a program will enhance the academic reputation of the Department, the College, and the University.

Sincerely,

Vernon M. Chinchilli, PhD
Proposal to Offer PhD in Epidemiology Degree Program in the Department of Public Health Sciences

College of Medicine, Penn State University

Submitted by

Vernon M. Chinchilli, PhD
Distinguished Professor and Chair

Duanping Liao, MD, PhD
Professor and Vice Chair for Research
Chief, Division of Epidemiology

On Behalf of the Department of Public Health Sciences

June 12, 2017
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<th>Section</th>
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<tr>
<td>33</td>
<td>Graduate Program Bulletin</td>
</tr>
</tbody>
</table>
The objectives of the PhD in Epidemiology program are to train students to (1) master current quantitative methods, including study designs and appropriate analytic methods in epidemiological research; (2) have broad knowledge of the epidemiology of various major human diseases; and (3) to become expert epidemiologists in a specific disease/health status topic. Career opportunities are available in universities, academic medical centers, research organizations, government, and private industry.

Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases. The cornerstone of public health is the protection of population health by means of prevention and control of diseases. The five core disciplines in public health are as follows: Behavioral science/health education, Biostatistics, Environmental health, Epidemiology, Health services administration. In fact, all well-established public health programs in this country have very strong epidemiological programs, and it is a common practice that a strong public health program must have Epidemiology and Biostatistics programs. This is not surprising, because Epidemiology is the discipline for the study of the distribution and determinants of health-related states or events (including diseases) in specified human populations, and the application of this study to the prevention and control of health problems. Epidemiology is the primary source of the knowledge that underlies public health policy and practice. As such, well-trained epidemiologists develop and evaluate hypotheses about the effects of various factors (risk factors) on human health and develop the knowledge basis for disease prevention and control programs.

In Pennsylvania, the University of Pittsburgh School Of Public Health is the only well-established public health program that offers a PhD in epidemiology (Based on US News and World Report of 2016 top 20 programs). Drexel University School of Public Health has initiated a PhD in epidemiology program, but it is not well established as yet. This is not surprising because candidates in an epidemiology PhD program not only have to have formal classroom training, but also must have guided research with faculty mentors who have ongoing current externally funded research in their respective research field of variety of areas of public health problems. On the other hand, demand for individuals with a PhD in epidemiology is extremely high.

Epidemiology field is interdisciplinary and has a methodology distinctive from, but also dependent on, biostatistics. Epidemiologists also make extensive use of the contributions of biological, clinical, and other sciences including techniques derived in biochemistry and molecular biology. Epidemiology and Biostatistics are considered as the fundamental disciplines of public health and clinical research.

The Department of Public Health Sciences (DPHS) in the College of Medicine proposes to offer the Doctorate in Epidemiology (PhD) degree program, enrolling our first cohort of students in the 2018 Fall Semester. All of the required courses for the program will be offered by PHS faculty members. PHS have had various epidemiological research projects and teaching experience since 1998.

The proposed PhD program will be offered primarily as a full-time degree program. While all of the required courses offered by PHS faculty members will be taught at the Penn State Hershey campus, it is possible that that a candidates from other campuses will enroll in the courses as electives. If that situation arises, then PHS will offer the courses via videoconference.
Students enrolled in the PhD program will be required to successfully complete a minimum of 28 accumulated course credit hours. Specifically, students are required to take:

- The “Required Core Methodology” courses (9 credits)
- The 1-credit Research Ethics course (PHS 500)
- At least four 3-credit courses under the “Substantive Epidemiology” courses (12 credits)
- Additional 6-credit hours can be taken from the “Other Biostatistics” courses (6 credits)

Students are required to fulfill the following requirements:

- Epidemiology and biostatistics seminar series: Students are required to attend. Each student is required to present at least one seminar each year.
- A candidacy exam taken after completion of the first 3 semesters of course work.
- A Comprehensive exam which will be a defense of dissertation research proposal, administered by the entire doctoral dissertation committee around one (1) year after passing the candidacy exam, approximately after five semesters of study.
- A PhD dissertation (PHS 601).
- A final oral dissertation defense administered by the entire doctoral committee
INTRODUCTION and JUSTIFICATION:

The objectives of the PhD in Epidemiology program are to train students to (1) master current quantitative methods, including study designs and appropriate analytic methods in epidemiological research; (2) have broad knowledge of the epidemiology of various major human diseases; and (3) to become expert epidemiologists in a specific disease/health status topic. Career opportunities are available in universities, academic medical centers, research organizations, government, and private industry.

Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases. Overall, public health is concerned with protecting the health of entire populations. These populations can be as small as a local neighborhood, or as large as an entire country or region of the world.

The cornerstone of public health is the protection of population health by means of prevention and control of diseases. The five core disciplines in public health are as follows: Behavioral science/health education, Biostatistics, Environmental health, Epidemiology, Health services administration.

In fact, all well-established public health programs in this country have very strong epidemiological programs, and it is a common practice that a strong public health program must have Epidemiology and Biostatistics programs. This is not surprising, because Epidemiology is the discipline for the study of the distribution and determinants of health-related states or events (including diseases) in specified human populations, and the application of this study to the prevention and control of health problems. Epidemiology is the primary source of the knowledge that underlies public health policy and practice. As such, well-trained epidemiologists develop and evaluate hypotheses about the effects of various factors (risk factors) on human health and develop the knowledge basis for disease prevention and control programs.

In Pennsylvania, the University of Pittsburgh School Of Public Health is the only well-established public health program that offers a PhD in epidemiology (Based on US News and World Report of 2016 top 20 programs). Drexel University School of Public Health has initiated a PhD in epidemiology program, but it is not well established as yet, maybe due to the fact that PhD candidates in an epidemiology PhD program not only have to have formal classroom training, but also must have guided research with faculty mentors who have ongoing current externally funded research in their respective research field of variety of areas of public health problems. In contrast to Drexel University’s faculty in epidemiology, PHS faculty members have established externally funded research programs in the past 20 years. On the other hand, demand for individuals with a PhD in epidemiology is extremely high. For example, the November 2016 Issue of Epidemiology Monitor, which most of the academic and not-for-profit institutions post their epidemiology job openings, listed 40 PhD-level positions (excluding postdoctoral positions). Many institutions have multiple positions available. This is not the process typically followed by pharmaceutical and biotechnology firms, who tend to recruit in-person, which they do through referral networks. Federal agencies, such as NIH, CDC and EPA usually have position openings through their websites, not through traditional printed academic journals. Also, as an indication of high demand for PhD-level epidemiologist, a newly-graduated PhD in epidemiology can find a position relatively easily without undergoing any postdoctoral training.

Finally, the Department of Public Health Sciences currently offers two doctoral-level programs, a PhD in
Biostatistics and a Doctor of Public Health. If the Department is to evolve into a School of Public Health, then the Council on Education for Public Health, the accrediting body for public health schools and programs, requires that the institution offer at least three doctoral programs across the areas of public health. A PhD in Epidemiology would be the optimal doctoral program for the Department of Public Health Sciences to pursue at this time. Currently, the Division of Epidemiology in the Department of Public Health Sciences at the College of Medicine comprises the largest group of epidemiological faculty members (14 holding a doctoral degree) within the University. In addition, the PHS is recruiting additional 3 tenure track epidemiology faculty. The College of Health and Human Development (CHHD) has several epidemiologists in Biobehavioral Health, Nutritional Sciences, and Health Policy and Administration. The CHHD epidemiologists will be invited to pursue joint faculty appointments in the Department of Public Health Sciences and participate in the Epidemiology PhD program. The Department of Public Health Sciences consulted with Dr. Nan Crouter, the CCHD Dean, and she approves of her epidemiological faculty members participating in the Epidemiology PhD program. It is anticipated that when we enroll our first cohort of PhD students in the fall semester of 2018, we will have 17 PhD level faculty in the Division of Epidemiology (ten tenured/tenure-track and four fixed-term). Currently, the faculty in PHS Division of Epidemiology teach, on average, one graduate-level course per academic year. If the Epidemiology PhD program is approved, then some of our faculty members within the division will need to teach two graduate-level courses per academic year. These faculty members have agreed to take on the additional teaching. Finally, this additional teaching will not have any impact on the other courses that are taught by epidemiology division faculty members that serve other graduate programs within PHS.

The Epidemiology field is interdisciplinary and has a methodology distinctive from, but also dependent on, biostatistics. Epidemiologists also make extensive use of the contributions of biological, clinical, and other sciences including techniques derived in biochemistry and molecular biology. Epidemiology and Biostatistics are considered as the fundamental disciplines of public health and clinical research.

The Department of Public Health Sciences (DPHS) in the College of Medicine proposes to offer the Doctorate in Epidemiology (PhD) degree program, enrolling our first cohort of students in the 2018 Fall Semester. All of the required courses for the program will be offered by PHS faculty members. PHS have had various epidemiological research projects and teaching experience since 1998.

The proposed PhD program will be offered primarily as a full-time degree program. While all of the required courses offered by PHS faculty members will be taught at the Penn State Hershey campus, it is possible that candidates from other campuses will enroll in the courses as electives. If that situation arises, then PHS will offer the courses via videoconference.

Students enrolled in the PhD program will be required to successfully complete a minimum of 28 credits. Specifically, students are required to take the “Required Core Methodology” courses (9 credits), and the 1-credit Research Ethics course (PHS 500), which is a required course to meet the SARI requirements. Students are also required to take at least four 3-credit courses under the “Substantive Epidemiology” courses (12 credits). The additional 6 credits can be taken from the “Substantive Epidemiology” and the “Other Biostatistics” courses (6 credits). Thus, total of at least 28 credits of course work. The course lists are:
PROGRAM REQUIREMENTS:

**Required Core Methodology** courses (10 credits):

- PHS 554: Statistical Methods in Public Health I (3 credits)
- PHS 555: Statistical Methods in Public Health II (3 credits)
- PHS 510: Grant Writing Methods (3 credits)
- PHS 500: Research Ethics for Clinical Investigators (1 credit)

**Substantive Epidemiology** courses (15 credits):

- PHS 558: CVD epidemiology (3 credits)
- PHS 556: Cancer epidemiology (3 credits)
- PHS 563: Advanced infectious disease epidemiology (3 credits)
- PHS 562: Environmental epidemiology (3 credits)
- PHS 503: Nutritional Epidemiology (3 credits)

**Other Biostatistics** courses (15 credits):

- PHS 523 Multivariate Analysis (3 credits)
- PHS 524 Longitudinal Data Analysis (3 credits)
- PHS 526 Categorical Data Analysis (3 credits)
- PHS 527 Survival Analysis (3 credits)
- PHS 580 Clinical Trials: Design and Analysis (3 credits)

Students are required to fulfill the following requirements:

1. Epidemiology and biostatistics seminar series: Students are required to attend. Each student is required to present at least one seminar each year.

2. Pass a candidacy examination which may be given after at least 18 credits have been earned in graduate courses beyond the baccalaureate, and must be taken within three semesters (excluding summer sessions) of entry into the doctoral program.

3. Pass a comprehensive examination which will be a defense of dissertation research proposal, administered by the entire doctoral committee after the candidate has substantially completed all course work.

4. To earn the Ph.D. degree, doctoral candidates must write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

5. Pass a final oral examination (the dissertation defense).

The technology requirements for each student enrolled in the program include access to a standard desktop or laptop computer with (1) SAS statistical software package, available for purchase by any Penn State student through the Penn State Computer Store (http://computerstore.psu.edu/), and (2) R statistical software, available as an open-source product (http://www.r-project.org/). In addition, each student will require access to journals and books at the Harrell Library at Penn State Hershey and online. The relevant epidemiology journals will be made available through the Harrell Library and online if possible.

Following Penn State Graduate School's "Program Proposal Procedures for New Programs," we justify our proposal accordingly.
A. Objectives of the PhD Program:
Currently, the Department of Public Health Sciences in the College of Medicine offers a Master of Science in Public Health Sciences (MS in PHS) degree, a Master of Public Health (MPH) degree, a PhD in Biostatistics degree (PhD in Biostatistics), and a Doctor of Public Health (DrPH) degree beginning in the 2016 Fall Semester:

- The MS degree in PHS is designed as an academic program targeting health care professionals. The educational emphasis is on providing graduate-level coursework in biostatistics, epidemiology, and health services research, so that the graduates from the MS in PHS program are provided with the knowledge, methodology, and insight required in health-related, specifically clinical research.
- The MPH degree program is designed to provide students first-hand real-world working experience in the practice of public health via the required 6-credits of Public Health Practice Internship(s), while achieving a level of proficiency in population-based methods of public health research.
- The PhD in Biostatistics degree is designed to train students in the theory, methodology, and application of biostatistics in biomedical research.
- The DrPH degree is designed to provide advanced public health education and training. DrPH program prepares students for evidence-based practice and translational science leadership.

Epidemiologists are specifically trained to master all current disciplines to quantitatively investigate the distribution and determinants of health-related states or events in specified populations. Epidemiologists will study a specific health / disease in great depth during their training period. They will also gain a broad understanding of other diseases/ health statuses in their training period. They will complete dissertation research on a specific disease/health event, such as breast cancer, coronary heart disease, or HIV infection. Through their dissertation research, they are expected to become an expert in their respective dissertation research topic and they are expected to continue and expand their dissertation research to move the field forward in the control and prevention of the specific health problem.

Therefore, the objectives of the PhD in Epidemiology program are to train students to (1) master current quantitative methods, including study designs and appropriate analytic methods in epidemiological research; (2) obtain broad knowledge of the epidemiology of various major human diseases; and (3) become expert epidemiologists in a specific disease/health status topics. Such a program located within the Department of Public Health Sciences at the Penn State Hershey College of Medicine will strengthen the research and educational activities for the College, as well as for the University. A strong program will lead to the recruitment of top-level faculty members in epidemiology, and hence, gain more attention to the College and University. Directing PhD dissertation research and graduating successful PhD epidemiologists will certainly synergistically enhance epidemiology faculty members’ independent research programs, and lend innovation and credibility to PHS, COM, and Penn State University. This program will be a new initiative for Penn State University.

There will be great synergy between this program and other academic programs, such as the PhD in Biostatistics program, the DrPH program, and other clinical and basic medical sciences programs, and clinical research programs. Traditional public health schools/programs all have programs in epidemiology and biostatistics. Many dissertation committees in the traditional epidemiology programs requires at least one biostatistician member, and vice versa. Many clinical researchers contribute to PhD dissertation committee.

B. A List of New Courses to Be Established As Part of the New Offering

B.1. New didactic courses specifically for PhD in Epidemiology degree program students: The following six (6) courses are the additional didactic courses for the PhD program that will be developed:
C. **A Complete Program Statement and Course Listing**

C.1. **Required Courses in the PhD in Epidemiology Program**

The PhD in Epidemiology program will require a minimum of 28 credits of coursework, comprised of three “**Required Core Methodology**” courses (9 credits), the 1-credit **Research Ethics** course (PHS 500), at least four courses under the “**Substantive Epidemiology**” courses (12 credits), and additional two courses can be taken from “**Other Biostatistics**” courses (6 credits). Thus, total of at least **28 credits** of course work.

Additionally, students are required to fulfill the following requirements: (1) Actively participate in epidemiology and biostatistics seminar series and each student is required to present at least one seminar each year; (2) take and pass a candidacy examination. The decision to admit or not to admit a student to candidacy will be made by a committee of graduate faculty in the Epidemiology program; (3) take and pass a comprehensive examination as a defense of the dissertation research proposal, administered by the entire doctoral committee after the candidate has substantially completed all course work; (4) write a Ph.D. dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School; and (5) pass a final oral examination (the dissertation defense).

The course offerings are summarized in Table 1 and a logical course sequence is summarized in Table 2 below.
<table>
<thead>
<tr>
<th>SEM</th>
<th>COURSE</th>
<th>COURSE TITLE</th>
<th>DIRECTOR</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA</td>
<td>PHS 500</td>
<td>Research Ethics</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>FA</td>
<td>PHS 554</td>
<td>Statistical Methods in Public Health I</td>
<td>Vernon M. Chinchilli, PhD</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Duanping Liao, MD, PhD</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>PHS 555</td>
<td>Statistical Methods in Public Health II</td>
<td>Vern Chinchilli, PhD</td>
<td>3</td>
</tr>
<tr>
<td>SP</td>
<td>PHS 510</td>
<td>Grant Writing</td>
<td>Kathryn Schmitz, PhD</td>
<td>3</td>
</tr>
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</table>

**Total from required core methodology courses:** 10

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### Substantive Epidemiology Courses (four as required and three as elective)

<table>
<thead>
<tr>
<th>SEM</th>
<th>COURSE</th>
<th>COURSE TITLE</th>
<th>DIRECTOR</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>PHS 558</td>
<td>CVD Epidemiology</td>
<td>Duanping Liao, MD, PhD</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Alicia McDonald, PhD</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Josh Muscat, PhD</td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>PHS 566</td>
<td>Cancer Epidemiology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FA</td>
<td>PHS 503</td>
<td>Nutritional Epidemiology</td>
<td>TBN</td>
<td>3</td>
</tr>
<tr>
<td>SP</td>
<td>PHS 563</td>
<td>Advanced Infectious Disease Epidemiology</td>
<td>Ping Du, MD, PhD</td>
<td>3</td>
</tr>
<tr>
<td>SP</td>
<td>PHS 562</td>
<td>Environmental Epidemiology</td>
<td>Jeff Yanosky, ScD.</td>
<td>3</td>
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</tbody>
</table>

**Total from Substantive Courses as required courses:** 12

**Total from Substantive Courses as elective courses:** 9

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### Other Biostatistics Courses (elective)

<table>
<thead>
<tr>
<th>SEM</th>
<th>COURSE</th>
<th>COURSE TITLE</th>
<th>DIRECTOR</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA</td>
<td>PHS 523</td>
<td>Multivariate Analysis</td>
<td>Vernon M. Chinchilli, PhD</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>PHS 524</td>
<td>Longitudinal Data Analysis</td>
<td>Lan Kong, PhD</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>PHS 526</td>
<td>Categorical Data Analysis</td>
<td>Jason Liao, PhD</td>
<td>3</td>
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<td></td>
<td>PHS 527</td>
<td>Survival Analysis</td>
<td>Dave Mauger, PhD</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHS 582</td>
<td>Biostatistical Methods in Clinical Trials</td>
<td>Vernon M. Chinchilli, PhD</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total from Other Biostatistics Courses as electives:** 15

**Total Available for a student:** 46

- **SP** – Spring Semester
- **FA** – Fall semester
**TABLE 2: A Logical Course Schedule for the PhD in Epidemiology Program offered by the College of Medicine**

We propose the following course schedule for PhD in epidemiology degree students. The proposed course schedule allows full-time students to complete the didactic courses in two years.

<table>
<thead>
<tr>
<th>Year one:</th>
<th>SEM</th>
<th>COURSE</th>
<th>COURSE TITLE</th>
<th>DIRECTOR</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA</td>
<td>PHS 500</td>
<td>Research Ethics</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>PHS 554</td>
<td>Statistical Methods in Public Health I</td>
<td>Vernon M. Chinchilli, PhD, Duanping Liao, MD, PhD</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td></td>
<td>Take one substantive course</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>PHS 555</td>
<td>Statistical Methods in Public Health II</td>
<td>Vernon M. Chinchilli, PhD</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td></td>
<td>Take one substantive course</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total from year one** 13

<table>
<thead>
<tr>
<th>Year two</th>
<th>SEM</th>
<th>COURSE</th>
<th>COURSE TITLE</th>
<th>DIRECTOR</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA</td>
<td>PHS 510</td>
<td>Grant Writing, Take one substantive course</td>
<td>Kathryn Schmitz, PhD</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td></td>
<td>Take one substantive courses</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td></td>
<td>Take one substantive course</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td></td>
<td>Take &quot;Other Biostatistics&quot; course</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td></td>
<td>Take &quot;Other Biostatistics&quot; course</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total from year 2** 15

**Total from first 2 years** 28

Candidacy Exam will be given in the first two weeks of the spring semester of year 2.

Comprehensive exam will be given in the summer after finishing first two and half years of study, often in the fall semester of year 3.

Year 3 – 5, after the comprehensive exam, a candidate will focus on his/her dissertation research, and a final oral exam and public defense of the dissertation research are expected within 4-5 years of study.
D. Admission Requirements

Admission requirements listed here are in addition to requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin.

D.1. Required

1. Have earned a MS or MPH degree with a focus on epidemiology or biostatistics.
2. Have successfully completed two-semester graduate-level courses in Epidemiology, comparable to PHS 550 and PHS 551.
3. Have successfully completed two-semester graduate-level courses in Biostatistics, comparable to PHS 520 and PHS 521.

Prospective applicants must demonstrate:

4. Completion of an undergraduate bachelor degree program at an accredited U.S. college or university, or its equivalent in another country, with a GPA of 3.0 or higher. Official transcripts from all post-secondary institutions attended are required.
5. Results from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) for applicants whose first language is not English, unless they meet Exemption requirements listed in the Graduate Bulletin. English proficiency test scores must meet or exceed the minimum acceptable scores required by Graduate Council.

6. Completion of the Graduate School application, which includes three (3) letters of recommendation and a Curriculum Vita or resume.

7. Payment of the nonrefundable application fee.

E. A justification of the program and Business Plan

The Justifications of this program are presented in pages 5-6 of this proposal, under “INTRODUCTION and JUSTIFICATION”

We have a very simple business plan: We anticipate accepting four students per year into program. We will recruit students who already hold an MS degree, so we anticipate that each student will graduate within four years.

F. A justification of the degree title

The appropriate degree title is PhD in Epidemiology. All top Public Health programs in the US (Based on US News and World Report top 20 programs) offer the PhD in Epidemiology.
G. Accreditation
Since epidemiologists are traditionally grouped according to the research topic areas, such as major diseases, epidemiologists have different primary professional organizations. For example, cardiovascular disease epidemiologists are most often affiliated with American Heart Association, and cancer epidemiologists are often affiliated with American Cancer Association. The professional associations are the primary venue for epidemiologists to present and discuss their research findings, in the form of annual professional conferences. However, these professional associations do not accredit graduate-level programs.

H. FACULTY MEMBERS IN THE DEPARTMENT OF PUBLIC HEALTH
H.1. DEPARTMENT OF PUBLIC HEALTH SCIENCES FACULTY ORGANIZATION CHART

Duanping Liao, MD, PhD (University of North Carolina, Chapel Hill, NC), Professor of Public Health Sciences, Vice Chair for Research and Chief of Division of Epidemiology.

Dr. Liao’s major research interests include the epidemiology of cardiovascular and cerebral vascular diseases, obesity and metabolic syndrome, air pollution and cardiovascular health, application of GIS in air pollution studies, sleep related health problems, and epidemiologic study of chronic diseases. Dr. Liao has served as principal investigator in extramural grants from American Heart Association, NIEHS, NHLBI, EPA, and CDC. He has also been involved as co-PI or co-investigator under several NIH grants.
Dr. Liao is one of the first investigators to hypothesize and report the associations between air pollution and cardiac electrophysiological parameters, especially HRV, as one of the mechanisms responsible for the link between air pollution and cardiac disease risk. His 1999 publication, daily variation of particulate air pollution and poor cardiac autonomic control in the elderly, in Environmental Health Perspectives, has been cited more than 470 times.

Dr. Liao is credited as one of the first investigators to study cardiac autonomic control in the development of cardiovascular disease in healthy individuals. His 1997 publication in American Journal of Epidemiology, Cardiac Autonomic Function and Incident Coronary Heart Disease: A Population-based Case-Cohort Study, the ARIC Study, has been cited 340 times.

Dr. Liao directed a team of multidisciplinary investigators to develop, validate, and automate a “GIS Approaches for the Estimation of Residential-level Ambient PM Concentrations”. The approach has been used to estimate daily exposures to various air pollutants in several NIH-funded R01 grants, such as Environmental Epidemiology of Arrhythmogenesis in Women Health Initiatives (EEAWHI, 5-R01-ES012238), Genetic Modification of PM-Mediated Arrhythmogenesis (5 R01 ES017794), Epigenetic Mechanisms of PM-Mediated CVD Risk (1 R01 ES020836-01A1), and Ambient Air Pollution and Incident Stroke (R01ES020871). This model is the first and one of the very few practical models that can be used to estimate daily air pollution exposures in large scale population-based samples.

Dr. Liao developed and directed “Principles of Epidemiology” (PHS550, College of Medicine, Penn State University) from 1999-2003. He has developed and directed “Advanced Epidemiology Methods” (PHS551, College of Medicine, Penn State University) since 2003. Dr. Liao is the co-director of “Statistical Methods for Public Health I” (PHS554, College of Medicine, Penn State University). He will develop and direct Cardiovascular Disease Epidemiology course for the PhD in epidemiology program.

Dr. Liao is the Vice Chair for Research. He facilitates collaborative research with other COM departments, such as Psychiatry, Penn State Heart and Vascular Institute, Obstetrics & Gynecology, and Medicine. He serves as a point of contact for faculty from other departments who are seeking collaborative research with PHS faculty. As the division chief, Dr. Liao is responsible for the operation of the division of epidemiology, in areas of research, teaching, and services. Dr. Liao is a member of the PHS Promotion and Tenure Committee (He chaired this committee 2007-2010, and 2014 - 2018).

**Thomas Lloyd, PhD (Harvard University, Boston, MA), Professor of Public Health Sciences.**

Dr. Lloyd was recruited to the Penn State College of Medicine from the NIH in 1975. Dr. Lloyd has had external research support since 1976, including being an American Heart Association’s Established Investigator. Training medical students and physicians to conduct clinical research has been a central and continuing aspect of Dr. Lloyd’s career. He was the architect of the Penn State Medical Student Research program and its director for 28 years. He has been the research project mentor for more than 50 medical students, physician students and graduate students and was the PI and director of the Penn State Clinical Research Training Program (K30 Program), 1998 – 2011. Dr. Lloyd’s current research interests are on the use of multi-media technologies to improve patient self-care and the development of active learning programs for clinicians and scientists who wish to improve their presentation communication skills.

**Joshua Muscat, PhD (New York University, New York, NY), Professor of Public Health Sciences.**

Dr. Muscat is an epidemiologist with a primary research interest in the causes and prevention of human cancer. He previously worked at the Memorial Sloan-Kettering Cancer Center and the American Health Foundation in New York. His work has included studies on environmental pollutants and cancer, and he has served as an advisor to federal and state regulatory agencies. Dr. Muscat’s interests include understanding the causes of racial disparities in cancer risk, including the impact of smoking behaviors, individual susceptibility, and diet. Dr. Muscat joined the Penn State faculty in 2004 as Professor of Public Health Sciences and member of the Penn State Cancer Institute.

**John Richie, PhD (University of Louisville), Professor of Public Health Sciences.**

Dr. Richie’s research focuses on the elucidation of factors that regulate cancer risk in individuals and in populations. Using an interdisciplinary research approach, the aim is to identify the roles and
mechanisms of key factors, alone and in combination, which impact cancer risk with the ultimate goal of utilizing this information in the design and development of targeted prevention strategies. The major areas of focus include aging, nutrition, tobacco and race/ethnicity as regulators or determinants of cancer risk. Particular emphasis is given to factors related to the generation of and protection against oxidative damage. In an ongoing molecular epidemiology study of tobacco-related cancers in black and white Americans, metabolic and genetic factors that may be responsible, in part, for observed racial differences in tobacco related cancer rates are being investigated. In other studies, we are examining the role of glutathione, the major endogenous antioxidant in nearly all cells and tissues, in protecting against oxidative damage during aging and its relationship with cancer development at numerous sites.

Robin Taylor Wilson, PhD (University of Iowa, Iowa City, Iowa), Associate Professor of Public Health Sciences, Director of DrPH program.

Dr. Wilson is a former pre-doctoral fellow with the Indian Health Service’s National Epidemiology Program, and post-doctoral fellow with the National Cancer Institute’s Surveillance Research Program and the Occupational and Environmental Epidemiology Branch within the Division of Cancer Epidemiology and Genetics.

Through research funded by the American Institute for Cancer Research (AICR, http://www.aicr.org/) our laboratory is working to identify polymorphic variants related to racial/ethnic differences in circulating vitamin D concentrations. Vitamin D has both nongenomic and genomic effects. Most of the known biologic functions are carried out through highly-specific binding of calcitriol (1,25(OH)2D3) to the vitamin D receptor (VDR). Other genes in the vitamin D pathway may also be important. The prevalence of genetic polymorphisms in some vitamin D-responsive genes vary substantially by race/ethnicity, which may contribute to cancer health disparities.

Funded by the National Institutes of Health, the Early Preparation and Inspiration for Careers in the Biomedical Sciences (EPIC) Program is a university-high school partnership designed to increase interest and persistence in the sciences through career planning and the Epidemiology Challenge (“Epi”) Challenge. The Epi Challenge is a project based learning experience where students develop and test their own hypotheses. Students work in teams to design their own study, test hypotheses and present their work in professional settings throughout the year.

Jeffrey Yanosky, Sc.D (Harvard University, Boston, MA), Associate Professor of Public Health Sciences.

Dr. Yanosky’s research interests focus on the statistical modeling of air pollutant concentrations, including fine and coarse mode particulate matter, ozone, nitrogen oxides, ultrafine particles, carbon monoxide, and other pollutants, in order to better understand both acute (short-term) and chronic (long-term) human exposures and their impacts on human health. He is currently developing GIS-based spatio-temporal statistical models of air pollutant concentrations that can be used to improve understanding of the relationship between chronic air pollution exposure and several aspects of human health, including incidence rates of cardiovascular disease, stroke, lung cancer, and other endpoints. Dr. Yanosky is also interested in modeling air pollutant emissions from traffic and the impacts of traffic-related air pollution on health. In addition, he is interested in using measurements of human exposure to air pollution, as well biomarkers of exposure and effect, to better link exposure with disease, and in the statistical modeling of health effects using advanced techniques such as generalized additive models and generalized additive mixed models.

Dr. Yanosky directs and teaches PHS 542: Environmental Health Sciences

Ping Du, MD, PhD (State University of New York at Albany, Albany, NY), Associate Professor of Medicine and Public Health Sciences.

Dr. Du is trained in preventive medicine and infectious disease epidemiology. She has broad experience in designing epidemiologic studies using electronic medical records, administrative data, and public health data to examine disease burdens, identify unmet medical needs, and evaluate health outcomes in various populations. She also has expertise in observational studies with primary data collection. Her current research includes examining adverse outcomes in HIV-infected patients following long-term
antiretroviral therapy, investigating the natural history of human papillomavirus (HPV) infection in the post-vaccination era, and assessing healthcare seeking behaviors in the US general population.

Dr. Du directs and teaches PHS550 Principles of Epidemiology and PHS553 Infectious Disease Epidemiology.

**Alicia McDonald, PhD (University of Pittsburgh, School of Public Health, Pittsburgh, PA), Assistant Professor of Public Health Sciences.**
Dr. McDonald’s major research interests include the study of prostate cancer etiology and outcomes and the study of infectious agents and cancer, in particular, cancer causing viruses Human herpesvirus 8 (HHV-8) and Human papillomavirus (HPV). Dr. McDonald is the Principal Investigator of R21 study “MicroRNAs and Early Prostate Cancer Detection”, funded by NCI.
Dr. McDonald will develop and co-direct (with Dr. Muscat) the cancer epidemiology course for the PhD program.

**Yendelela Cuffee, PhD (University of Massachusetts Medical School, Worcester, MA), Assistant Professor of Public Health Sciences.**
Dr. Yendelela Cuffee’s research explores the root causes of health disparities among individuals with cardiovascular disease. Her research examines the psychosocial and behavioral correlates of medication adherence among African Americans and Latinos with hypertension. Dr. Cuffee is currently developing a community-based project to assess health literacy, medication adherence, and use of mobile devices for managing hypertension.

Dr. Cuffee will develop and co-direct a cardiovascular epidemiology course for the PhD program.

**Casey Pinto, PhD (Pennsylvania State University, State College, PA), Assistant Professor of Public Health Sciences.**
Casey Pinto’s research focuses on health disparities related to the acquisition of sexually transmitted diseases, specifically rural urban differences. Her research is epidemiological and implements spatial analysis as well as novel methodology to perform analysis on small rural populations. She maintains her clinical practice at Pinnacle Health Infectious disease, the Department of Health STD clinic, and globally as a clinician and co-founder of One World Medicine Clinic in India.

Dr. Pinto also has a strong commitment to teaching, global health, and clinical practice. She will develop and co-direct an advanced infectious disease epidemiology course (with Dr. Ping Du) for the PhD in epidemiology program.

**Kathleen Sturgeon, PhD (University of Pennsylvania, Philadelphia, PA), Assistant Professor of Public Health Sciences.**
Dr. Sturgeon’s research is transdisciplinary, translational, and focused on clinical exercise physiology and molecular transducers of physical activity. Dr. Sturgeon has worked on studies investigating the effect of exercise on oxidative stress in mitigating pre-hypertension in sedentary, overweight African American men and women. In parallel Dr. Sturgeon has “exercised” endothelial cells in vitro using a cone-and-plate viscometer shear stress system. In line with this translational work Dr. Sturgeon has also investigated exercise in cancer models which concomitantly examine the role of exercise in anthracycline-induced cardiotoxicity and cancer biology. These animal models are supplemented with patient surveys regarding perspectives of exercise in cancer care delivery. Currently, Dr. Sturgeon is leveraging epidemiological investigations to inform animal models of exercise in breast cancer prevention and examining epigenetic modifications to exercise during the menarche-to-first pregnancy interval.

Dr. Sturgeon is interested in developing a public health biology course.

**Renate Winkels, PhD (Wageningen University, Wageningen, the Netherlands), Research Associate Public Health Sciences.**
Dr Winkels’ research focusses on body composition of cancer patients and survivors and on how body composition affects cancer prognosis and survival. Dr Winkels is a nutritionist and is particularly interested...
in how dietary intake and physical activity affect body composition. She has worked on and continuous to work on observational studies in colorectal and breast cancer patients with collaborators in the Netherlands. Moreover, she has a background in randomized intervention studies in healthy volunteers to study nutritional aspects of metabolism. In November 2016 she moved to Penn State where she will focus on clinical interventions in cancer patients and on how dietary intake in combination with exercise can affect body composition and clinical outcomes.

H.3. DEPARTMENT OF PUBLIC HEALTH SCIENCES - JOINT FACULTY MEMBERS

<table>
<thead>
<tr>
<th>Division of Biostatistics and Bioinformatics</th>
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<tbody>
<tr>
<td><strong>Francesca Chiaramonte, PhD</strong></td>
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<tr>
<td>Associate Professor</td>
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<tr>
<td>Department of Statistics, Eberly College of Science</td>
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<tr>
<td><strong>Debashis Ghosh, PhD</strong></td>
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<tr>
<td>Associate Professor</td>
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<td>Department of Statistics, Eberly College of Science</td>
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<td><strong>Judie Howryk, MD, PhD</strong></td>
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<tr>
<td>Assistant Professor</td>
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<td>College of Medicine</td>
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<tr>
<td><strong>Runze Li, PhD</strong></td>
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<tr>
<td>Professor</td>
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<tr>
<td>Department of Statistics, Eberly College of Science</td>
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<tr>
<td><strong>Alexandra Slavkovic, PhD</strong></td>
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<tr>
<td>Associate Professor</td>
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<td>Department of Statistics</td>
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<td><strong>Vonn A. Walter, PhD</strong></td>
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<tr>
<td>Associate Professor</td>
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<td>Department of Biochemistry &amp; Molecular Biology</td>
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<th>Division of Epidemiology</th>
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<tr>
<td><strong>Kevin Cockroft, MD, MS</strong></td>
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<tr>
<td>Professor</td>
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<td>Department of Neurosurgery</td>
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<td><strong>Keri Donaldson, MD</strong></td>
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<tr>
<td>Assistant Professor</td>
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<tr>
<td>Department of Pathology</td>
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<td><strong>Nasrollah Ghahramani, MD, MS</strong></td>
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<td>Associate Professor</td>
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<td>Department of Medicine</td>
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<td><strong>Virginia Imadojemu, MD, MS</strong></td>
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<td>Associate Professor</td>
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<td>Department of Medicine</td>
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<td><strong>Richard Legro, MD</strong></td>
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<td>Professor</td>
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<tr>
<td>Department of Obstetrics &amp; Gynecology</td>
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<td><strong>Lisabeth Scalzi, MD</strong></td>
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<td>Associate Professor</td>
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<td>Department of Pediatrics</td>
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<td><strong>Ingrid Scott, MD</strong></td>
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<tr>
<td>Professor</td>
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<tr>
<td>Department of Ophthalmology</td>
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<td><strong>Robert Tamburro, MD, MSc</strong></td>
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<tr>
<td>Professor</td>
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<tr>
<td>Department of Pediatrics</td>
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<tr>
<td><strong>Neal Thomas, MD, MS</strong></td>
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<tr>
<td>Professor</td>
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<td>Department of Pediatrics</td>
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## PHS Joint Faculty Members

**Division of Health Services and Behavioral Research**

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<thead>
<tr>
<th>Name</th>
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<tr>
<td>Rhonda BeLue, PhD</td>
<td>Assistant Professor</td>
<td>Department of Health Policy &amp; Administration</td>
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<tr>
<td>Cynthia Chuang, MD, MSc</td>
<td>Associate Professor</td>
<td>Department of Medicine</td>
</tr>
<tr>
<td>William Curry, MD, MS</td>
<td>Professor</td>
<td>Department of Family &amp; Community Medicine</td>
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<tr>
<td>Paul Esinger, PhD</td>
<td>Professor</td>
<td>Department of Neurology</td>
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<tr>
<td>Andrew Foy, MD</td>
<td>Assistant Professor</td>
<td>Department of Medicine and Public Health Sciences</td>
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<tr>
<td>Ben Fredrick, MD</td>
<td>Associate Professor</td>
<td>Department of Family and Community Medicine</td>
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<tr>
<td>Jed Gonzalo, MD, MSc</td>
<td>Assistant Professor</td>
<td>Department of Medicine</td>
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<tr>
<td>Niraj Gusani, MD, MS</td>
<td>Associate Professor</td>
<td>Department of Surgery</td>
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<tr>
<td>Paul Haidet, MD, MPH</td>
<td>Professor</td>
<td>Department of Medicine</td>
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<tr>
<td>Christopher Hollenbeck, PhD</td>
<td>Professor</td>
<td>Department of Surgery</td>
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<tr>
<td>C. James Holliman, M.D.</td>
<td>Professor</td>
<td>Emergency Medicine</td>
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<tr>
<td>Hengameh Hosseini, PhD</td>
<td>Assistant Professor</td>
<td>Health Administration and Public Health Sciences</td>
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**Division of Health Services and Behavioral Research**

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<tr>
<th>Name</th>
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<th>Department/Institute</th>
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<tr>
<td>Donna Kephart, M.H.A.</td>
<td>Senior Instructor</td>
<td>Pediatrics and Public Health Sciences</td>
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<tr>
<td>Jennifer Kraschnewski, MD, MPH</td>
<td>Assistant Professor</td>
<td>Department of Medicine</td>
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<tr>
<td>Christopher LaCoe, PhD</td>
<td>Assistant Professor</td>
<td>Heart and Vascular Institute</td>
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<tr>
<td>Jeffrey Lubin, MD</td>
<td>Associate Professor</td>
<td>Emergency Medicine</td>
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<tr>
<td>Scherezade Mama, DrPH</td>
<td>Assistant Professor</td>
<td>Department of Kinesiology, UP</td>
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<tr>
<td>Deirdre McCaughey, PhD, MBA</td>
<td>Assistant Professor</td>
<td>Department of Health Policy and Administration</td>
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<tr>
<td>Patricia Miranda, PhD, MPH</td>
<td>Assistant Professor</td>
<td>Department of Health Policy and Administration</td>
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<tr>
<td>Ian Paul, MD, MS</td>
<td>Professor</td>
<td>Department of Pediatrics</td>
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<tr>
<td>Bruce Rudy, D.Ed., PA-C</td>
<td>Assistant Professor</td>
<td>Department of Emergency Medicine</td>
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<tr>
<td>Jane Schubart, PhD</td>
<td>Assistant Professor</td>
<td>Department of Surgery</td>
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<tr>
<td>Christopher Soiamanna, MD, MPH</td>
<td>Professor</td>
<td>Department of Medicine</td>
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<tr>
<td>Joel Segel, PhD</td>
<td>Assistant Professor</td>
<td>Department of Health Policy and Administration</td>
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<tr>
<td>Pamela Short, PhD</td>
<td>Professor</td>
<td>Department of Health Policy and Administration</td>
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H.4. DEPARTMENT OF PUBLIC HEALTH SCIENCES - ADJUNCT FACULTY MEMBERS

Public Health Sciences - Adjunct Faculty Members

Division of Biostatistics and Bioinformatics
Claudia Gragnoli, MD, PhD
Adjunct Associate Professor
University of Florida

Michael Horst, PhD
Adjunct Associate Professor
Lancaster General Hospital

Tiepu Liu, MD, DrPH
Adjunct Professor
United Biosource Corporation

Kevin Nelson, PhD
Adjunct Assistant Professor
PA Department of Health

Linda Pickle, PhD
Adjunct Professor
StatNet Consulting LLC

Division of Epidemiology
Farhad Ahmed, MBBS, MPH
Adjunct Assistant Professor
PA Department of Health

Sameh Bakor, MD, MPH
Adjunct Assistant Professor
PA Department of Health

Jaganth Devasundaram, MBBS, MPH
Adjunct Assistant Professor
PA Department of Health

Carla Gallagher
Adjunct Assistant Professor
Public Health Sciences

Samuel Lesko, MD, MPH
Adjunct Professor
University of Scranton

James Logue, DrPH
Adjunct Professor
PA Department of Health

Nkuchia Mukanatha, DrPH
Adjunct Associate Professor
PA Department of Health

Atmaran Nambiar, MD, MPH
Adjunct Assistant Professor
PA Department of Health

Godwin Obiri, DrPH
Adjunct Associate Professor
PA Department of Health

Stephen Ostroff, M.D.
Adjunct Professor
Food and Drug Administration

Division of Epidemiology
W. Roy Prescott, Jr., PhD
Adjunct Associate Professor
HydroWorld Health

James Rankin, Jr., PhD, DVM
Adjunct Professor
PA Department of Health

Kandiah Sivarajah, PhD
Adjunct Professor
PA Department of Health

Ronald Tringali, PhD, RN
Adjunct Associate Professor
PA Department of Health

Kirsten Waller, MD, MPH
Adjunct Professor
PA Department of Health

Mark White, MD, MPH
Adjunct Assistant Professor
Commonwealth Medical College

Zhi-Jie (Zl) Zheng, MD, MPH, PhD
Adjunct Professor
Shanghai Jiao Tong University
School of Public Health

Division of Health Services and Behavioral Research
Roger Anderson, Ph.D.
Adjunct Professor
University of Virginia

Ali Reza Bakhshalizadeh, MD, MA, MPH
Adjunct Assistant Professor
Memorial Hospital, York

Oralia Dominic, PhD
Adjunct Assistant Professor
Highmark Blue Shield

Jennifer Erickson, PhD
Adjunct Associate Professor
State College

Christopher Gorton, MD, MHSA
Adjunct Associate Professor EDS
Global Health Care

Eric Hillsen, PhD
Adjunct Professor
Computer Sciences Corporation

Mark Jacobson, DO
Adjunct Associate Professor
Ephrata Community Hospital

Jeffrey Lubin, MD
Associate Professor
Emergency Medicine

Richard Rauscher, PhD
Associate Professor
Computer Sciences

I. Original Written Responses from Departments Affected (None)

J. Letters of Support from Administrators at the COM

1. Dean of the Penn State College of Medicine, Hershey
2. Vice Dean for Research and Graduate Studies, Penn State College of Medicine, Hershey
3. Associate Dean for Graduate Studies, Penn State College of Medicine, Hershey
Dear Dr. Chinchilli,

Thank you for sharing your proposal to establish a PhD program in Epidemiology. I believe your proposal is timely and well conceived. This program will prepare scholars to contribute to an important area of public health. Moreover, the program will leverage existing resources and serve as complement to the already existing doctoral programs in the Department of Public Health Sciences. Therefore, I am pleased to offer my support for the proposal. Please don’t hesitate to contact me if I can be of any assistance.

Sincerely,

Patria Julnes

Dr. Patria Julnes

Patricia de Lancer Julnes, Ph.D.
Director, School of Public Affairs
Penn State Harrisburg
Mailing Address:
777 W. Harrisburg Pike
Middletown, PA 17057

Office Address:
153 W Olmsted
Phone: 717-948-6693
E-mail: pdd10@psu.edu or patriajulnes@psu.edu
August 28, 2017

Vernon M. Chinchilli, PhD
Distinguished Professor and Chair
Department of Public Health Sciences, A210
Penn State College of Medicine
90 Hope Drive, Suite 2200
Hershey, PA 17033-0855

Dear Vern:

I have reviewed your proposal for an Epidemiology PhD program in the Department of Public Health Sciences in the College of Medicine. The College of Health and Human Development (CHHD) is supportive of this proposal. We have several epidemiologists in CHHD, currently in the Departments of Biobehavioral Health, Health Policy and Administration, and Nutritional Sciences. We welcome the opportunity for our faculty to participate in the Epidemiology PhD program, including the potential for joint faculty appointments in the Department of Public Health Sciences and the possibility of cross-listed courses.

Please let me know if you require anything further.

Sincerely,

Kathryn Drager, Ph.D., CCC-SLP
Associate Dean for Research and Graduate Education
Professor of Communication Sciences and Disorders
College of Health and Human Development
Pennsylvania State University
August 28, 2017

Vernon M. Chinchilli, PhD
Distinguished Professor and Chair Department of Public Health Sciences
Penn State College of Medicine

Dear Dr. Chinchilli,

I am writing to provide the College of Nursing’s support of your proposal to initiate a PhD program in Epidemiology. Although I do not anticipate these courses to be in high demand among the nursing graduate students, I fully endorse this as an option for our students who are interested in public health.

Sincerely,

Janice Penrod, PhD, RN, FGSA, FAAN
Interim Dean and Professor
College of Nursing
August 10, 2017

Graduate Council Committee on Programs and Courses
The Graduate School
Kern Graduate Building
The Pennsylvania State University
University Park, PA 16802

Members of the Graduate Council Committee on Programs and Courses:

I am writing to express my enthusiastic support for the proposal to establish an Epidemiology PhD program in the Department of Public Health Sciences in the College of Medicine. Currently, the University does not offer any undergraduate or graduate programs in epidemiology. In Pennsylvania, the University of Pittsburgh School of Public Health is the only well-established public health program that offers an Epidemiology PhD program (Drexel University School of Public Health has initiated such a program, but it is not well established as yet).

The Department of Public Health Sciences currently offers two other doctoral-level programs, namely, the Biostatistics PhD program and the Doctor of Public Health (DrPH) program. The Epidemiology PhD program would complement these two programs very well and would enhance the status, visibility, and reputation of the Department of Public Health Sciences in the various fields of public health. In addition, having three doctoral-level graduate programs in public health disciplines is a requirement for accreditation as a school of public health, as determined by the Council on Education for Public Health (CEPH). It is possible that in the near future, we will pursue elevating the Department of Public Health Sciences to School status.

On behalf of the College of Medicine, I strongly urge you to approve the proposal for the Epidemiology PhD program. Please do not hesitate to contact me if you require any further information.

Sincerely,

/    

A. Craig Hillemeier, M.D.

ACH/ss
August 3, 2017

Graduate Council Committee on Programs and Courses
The Graduate School
Kern Graduate Building
The Pennsylvania State University
University Park, PA 16802

Members of the Graduate Council Committee on Programs and Courses:

I am writing to express my support for the proposal submitted by the Department of Public Health Sciences in the College of Medicine to offer an Epidemiology PhD program. Epidemiology is the study of the prevention and control of diseases. Currently, the University does not offer any undergraduate or graduate programs in epidemiology. In Pennsylvania, the University of Pittsburgh School Of Public Health is the only well-established public health program that offers an Epidemiology PhD program. (Drexel University School of Public Health has initiated such a program, but it is not well established as yet).

The Department of Public Health Sciences currently offers two other doctoral-level programs, namely, the Biostatistics PhD program and the Doctor of Public Health (DrPH) program. The Epidemiology PhD program would complement these two programs very well and help establish the Department of Public Health Sciences as a force in biostatistics, epidemiology, and public health. In addition to providing important educational opportunities in the College of Medicine, it will help to strengthen the research activities of the Department and the College of Medicine.

I strongly encourage you to approve the proposal for the Epidemiology PhD program. Please contact me if I can provide any additional information in support of the proposal.

Sincerely,

Leslie J. Parent, M.D.
Vice Dean for Research and Graduate Studies
Penn State College of Medicine
Associate Vice President for Health Sciences Research
Penn State University
4 August 2018

Graduate Council Committee on Programs and Courses
The Graduate School
Kern Graduate Building
The Pennsylvania State University
University Park, PA 16802

Members of the Graduate Council Committee on Programs and Courses:

The purpose of this letter is to provide my enthusiastic support for the proposed Epidemiology PhD program, submitted by the Department of Public Health Sciences (PHS) in the College of Medicine.

PHS contains a Division of Epidemiology with 14 full-time, doctoral-level faculty members and is well positioned to offer such a graduate program. These faculty members currently are involved in the training of graduate students in the Master of Public Health (MPH) and Doctor of Public Health (DrPH) programs, but the latter two programs are more focused on public health practice than on research. The Epidemiology PhD program would provide these PHS faculty members the opportunity to enhance their reputation and standing within the epidemiological community, and strengthen their research programs. In addition, PHS currently offers two other doctoral-level programs, namely, the Biostatistics PhD program and the DrPH program. The Epidemiology PhD program would complement these two programs very well and help establish (1) PHS as a force in biostatistics, epidemiology, and public health and (2) strengthen the research activities of the College of Medicine.

Currently, the University does not offer any undergraduate or graduate programs in epidemiology. In Pennsylvania, the University of Pittsburgh School Of Public Health is the only well-established public health program that offers an Epidemiology PhD program (Drexel University School of Public Health has initiated such a program, but it is not well established as yet).

I strongly encourage you to approve this timely proposal for the Epidemiology PhD program. Please contact me if I can provide any additional information in support of the proposal.

Sincerely,

Charles H. Lang, PhD
Associate Dean Graduate Studies
August 30, 2017

Dear Dr. Chinchilli:

I am pleased to inform you that your SARI@PSU Program Plan has been received and approved for implementation beginning in the fall semester of 2018. Thank you very much for your time and attention to detail.

We have set up a folder in Box at Penn State to facilitate SARI@PSU program tracking and communication. Once the PhD Epidemiology program is underway, please let us know and we will send you a SARI@PSU tracking form. We will need to know the name and contact information of the program administrator. SARI tracking forms are uploaded to the ORP once a year in June. Our goal is to make this system as simple and transparent as possible, so please let us know if you have any comments or suggestions.

If, in the future, you find that changing needs require you to modify your SARI@PSU plan, please let us know and submit a revised SARI@PSU program plan form to the Office for Research Protections at least 30 days prior to the change. You may do this by email. Documents to support the SARI@PSU program can be found in Box and also on the SARI@PSU website (www.research.psu.edu/training/sari), which includes additional resources for SARI@PSU education. As always, your questions, comments, and suggestions concerning any aspect of the SARI@PSU program are welcome.

Thank you again for your participation in this important initiative, and for supporting Penn State’s commitment to modeling and teaching the responsible conduct of research and scholarship in our community.

Sincerely,

Deb

Debrah Poveromo
Education Coordinator

cc: Mardi Sawyer
Graduate Degree Programs

Epidemiology (EPID)

Program Home Page

VERNON M. CHINCHILLI, Chair of the Department of Public Health Sciences
College of Medicine, Penn State Milton S.
Hershey Medical Center  Hershey, PA 17033
717-531-7178

Degree Conferred:
Ph.D. in Epidemiology

The Graduate Faculty

The Program

Epidemiology is the discipline for the study of the distribution and determinants of health-related states or events (including diseases) in specified human populations, and the application of this study to the prevention and control of health problems. Epidemiology is the primary source of the knowledge that underlies public health policy and practice. As such, well-trained epidemiologists develop and evaluate hypotheses about the effects of various factors (risk factors) on human health and develop the knowledge basis for disease prevention and control programs.

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.

Applicants must complete prior to admission:

1. An M.S. or M.P.H. degree with a focus on epidemiology or biostatistics
2. A two-semester graduate level course in Epidemiology, comparable to PHS 550 (3) and PHS 551 (3).
3. A two-semester graduate level course in Biostatistics, comparable to PHS 520 (3) and PHS 521 (3).

Prospective applicants must demonstrate:

1. Completion of an undergraduate bachelor degree program at an accredited U.S. college or university, or its equivalent in another country, with a GPA of 3.0 or higher. Official transcripts from all post-secondary institutions attended are required.
2. 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.
3. Completion of the Graduate School application, which includes three (3) letters of recommendation and a Curriculum Vita or resume.
4. Payment of the nonrefundable application fee.

Doctoral Degree Requirements

Requirements listed here are in addition to requirements stated in the DEGREE REQUIREMENTS section of the Graduate Bulletin. Students enrolled in the Epidemiology Ph.D. program must successfully complete a minimum of 28 credits, including 10 core required credits in:

Required Course Methodology:

PHS 554:  Statistical Methods in Public Health I (3)
PHS 555:  Statistical Methods in Public Health II (3)
PHS 510:  Grant Writing Methods (3)
Required Course: PHS 500: Research Ethics for Clinical Investigators (1)

Students are also required to complete a minimum of 12 credits in Substantive Epidemiology courses and a minimum of 6 credits in either Substantive Epidemiology courses or Other Biostatics courses. The list of courses that will fulfill these requirements is maintained by the graduate program office.

Additionally, Epidemiology Ph.D. students are required to fulfill the following requirements:

- Epidemiology and biostatistics seminar series: Students are required to attend. Each student is required to present at least one seminar each year.
- Pass a candidacy examination which may be given after at least 18 credits have been earned in graduate courses beyond the baccalaureate, and must be taken within three semesters (excluding summer sessions) of entry into the doctoral program.
- Pass a comprehensive examination which will be a defense of the dissertation research proposal, administered by the entire doctoral committee after the candidate has substantially completed all course work.
- To earn the Ph.D. degree, doctoral candidates must write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.
- Pass a final oral examination (the dissertation defense).

Student Aid

Graduate assistantships available to 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.

PUBLIC HEALTH (PHS) 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 Office of the Dean of the Graduate School, 211 Kern Building, University Park. 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.

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**New Graduate Program, Option, or Minor:**

- **Designation of new graduate program:** Master of Public Policy
- **Classification of Instructional Programs (CIP) Code:** 44.0501
- **Designation of new graduate option:**
- **Designation of new graduate minor:**

**Indicate effective semester:**
- First semester following approval
- Second semester following approval

**Fall 2019**

### Existing Graduate Program Option, or Minor:

| 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

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

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

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<td>O. Scott Bennett, Associate Dean</td>
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<td>11/17/2017</td>
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Dear Scott,

Yes, I have read, and approve the MPP proposal.

Best,
Mike Putnam

"I have no special talents. I am only passionately curious."
- Albert Einstein

*************
Dr. Michael T. Putnam
Associate Professor of German & Linguistics Penn State University Department of Germanic & Slavic Languages & Literatures
239 Burrowes
University Park, PA 16802
Phone: +1 (814) 863-2138
Email: mike.putnam@psu.edu
Homepage: http://psumikeputnam.weebly.com/

Language Contact & Change lab @ PSU: http://psulcc.weebly.com

Associate Member, Centre for Literacy and Multilingualism, University of Reading, United Kingdom
http://www.reading.ac.uk/celm/

Affiliate, Center for Multilingualism in Society Across the Lifespan, University of Oslo, Norway
http://www.hf.uio.no/multiling/english/

Affiliate Member, Bilingualism Research Laboratory, University of Illinois at Chicago http://lcsl.uic.edu/hispanic-italian/research-groups/bilingualism-research-laboratory

Associate Member, Zentrum 'Sprache, Variation und Migration', Universitäts Potsdam http://www.uni-potsdam.de/svm

Collaborator, Applied Cognitive Science Lab, Penn State University http://acs.ist.psu.edu/wp/

Series editor, Studies in Germanic Linguistics, John Benjamins Publishing Company
https://benjamins.com/#catalog/books/sigl/main

----- Original Message ----- 
From: D. Scott Bennett <sbennett@psu.edu>
To: Michael Putnam <mtp12@psu.edu>
Sent: Fri, 17 Nov 2017 15:20:29 -0500 (EST)
Subject: MPP proposal approval
Hi Mike. For the Graduate Council Program Proposal Form, we need your signature/CK that you have reviewed the program proposal for the Master of Public Policy. This is in your role as the College representative to the Graduate Council Subcommittee on New and Revised Programs and Courses.

An email reply is OK acknowledging this. Would you please reply letting us know that you approve the submission?

Thanks,

Scott Bennett

---------------------------------------------------------------

D. Scott Bennett

Associate Dean for Research and Graduate Studies

Distinguished Professor of Political Science

College of the Liberal Arts

105 Sparks Building

The Pennsylvania State University

University Park, PA 16802

Voice (814) 865-1439; Fax (814) 863-2085
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<td>On Behalf of Regina Vasilatos-Younken</td>
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A Proposal to the Graduate Council to Establish a Master of Public Policy Degree Program

Submitted by:
College of the Liberal Arts

Contact:

David Lowery, Miller-Lavigne Professor of American Politics and Public Policy
Department of Political Science
225 Pond Hall
(814) 470-2026
dlowery@psu.edu
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A Proposal to the Graduate Council to Establish a Master of Public Policy Degree Program

The College of the Liberal Arts proposes that a new Master of Public Policy degree program be established at the University Park campus of Pennsylvania State University. The M.P.P. degree will be an on-campus, two-year program designed to be affiliated with APPAM and accredited by NASPAA to take advantage of the considerable substantive policy expertise uniquely available on the University Park campus.1 The M.P.P. program will recruit approximately 30 students per year, starting with the 2019-2020 academic year, preparing them for careers for which public policy expertise would be valued: in government agencies, think tanks and consulting firms, non-profit organizations, and lobby firms and private sector organizations engaged in public affairs representation. In addition to a one credit internship class, the M.P.P. core curriculum (36 credit hours) is designed to rely on and to reflect the disciplinary expertise of the departments within the College of the Liberal Arts in keeping with an APPAM affiliated program, especially the Departments of Economics, Political Science, Sociology, and Psychology, and the School of Labor and Employment Relations. The policy specialization curriculum (12 credit hours) will draw heavily – via close collaboration – from existing courses on substantive issue-areas already available both in the College of the Liberal Arts and across the University. These include already-developed substantive specializations in health policy, criminal justice policy, labor and employment policy, information sciences and technology policy, children and family policy, and a methodologically oriented specialization in public policy analysis, as well as several additional substantive specialization tracks now being developed with partner departments in sports, agriculture, international, education, and bioethics policy. This proposal outlines the rationale for the proposed M.P.P. degree program, discusses the M.P.P. degree both as one type of public affairs program and in terms of its relationships with other degree programs offered by Pennsylvania State University, and both describes and justifies the curriculum of the new professional master degree.

I. Justification for the Master of Public Policy Program

There are three good reasons to establish a new Master Degree in Public Policy at the University Park campus of PSU. First, a focus on public affairs professional education is on its face consistent with the public service mission of Land Grant institutions, which include most of the Big 10 Universities. An important part of supporting public service is the training of professionals in government or those interested in what government does in the design, implementation, and evaluation of public policies associated with public service. Indeed, professional degrees in public affairs are offered at the main campuses of all but five of the 14 Big 10 universities (these five are the University of Illinois, Purdue University, the University of Iowa, the University of Nebraska, and the Pennsylvania State University).2 And while not offering a public affairs professional Masters degree, the University of Iowa,

1 APPAM and NASPAA are discussed in detail below.
2 The Omaha campus of the University of Nebraska does offer a M.P.A. degree, as does the Harrisburg campus of Penn State and the Springfield campus of the University of Illinois.
the University of Illinois, and the University of Nebraska have well established public policy centers to support multidisciplinary research on public policy and provide public affairs services to their respective communities. Of the Big 10 universities, only Purdue University arguably has less capacity than Pennsylvania State University to provide a focus for public affairs education, research, and service on its largest campus.\(^3\)

Second, the establishment of a new professional Master degree in Public Policy within the College of the Liberal Arts at the University Park campus is consistent with two elements of the current strategic plan of the University. First, the thematic priorities developed in the strategic plan highlight a number of specific public policy areas in which the University seeks to be a leader, including health and environmental policy. One important part of that effort should be educating the public policy professionals who will design and implement new policy proposals addressing these concerns. And second, the strategic plan sets a goal of enhancing the Arts and Humanities as “agents of change in addressing complex global issues.” While both the College and the University have considerable substantive public policy expertise, the College of the Liberal Arts currently provides little in the way of institutional structure to leverage that expertise to take full advantage of opportunities for public policy research, teaching, and service. A Master of Public Policy degree program will provide an institutional focus for public policy research in the College and better integrate the College into the broader public policy research and scholarship of the University.

Third, The Pennsylvania State University’s wealth of public policy expertise across its programs is now weakly leveraged to provide broad training for policy professionals at University Park. That expertise resides in the substantive scholarly remit of its several colleges and departments. And while Penn State does have a few degree programs that provide professional training in fields of public policy, these are quite specific to a few substantive fields or loci of public policy. For example, the School of International Affairs on the University Park campus provides training in several fields of public policy focused on international affairs. And the Department of Energy and Mineral Engineering’s major in Energy Business and Finance, like several other programs, offers excellent training in a specific field relevant to public policy. PSU’s Health policy and Administration MS degree is another such program.\(^4\) But there is no general public policy professional master degree program designed to take advantage of the full range of substantive public policy expertise available across the University Park campus. The M.P.P. degree program is designed to leverage the considerable substantive public policy expertise of the College and University so as to better serve government policy makers at all levels of government as well as others with a compelling interest in the design and implementation of public policy. \textit{The M.P.P.}

---

\(^3\) Purdue’s lack of attention to public policy is understandable given its extremely difficult competitive environment. Indiana University’s School of Public and Environmental Affairs is one of the oldest and largest schools of public policy in the country. Not only is it well established on the main campus, it operates across its many satellite campuses. PSU at University Park faces a less competitive local market in terms of APPAM affiliated public policy programs. There are only three affiliated programs in the state: Carnegie Mellon University, the University of Pittsburgh, and the University of Pennsylvania. The remaining M.P.A. programs in the state are not affiliated with APPAM.

\(^4\) http://bulletins.psu.edu/graduate/programs/H/GRAD%20H%20P%20A
degree program will provide a focused scholarly community for faculty interested in substantive public policy issues at University Park, a community that is far more inclusive in terms of the public policy issues addressed than is provided by current degree programs.

A Master of Public Policy program offered the University Park campus, therefore, will contribute significantly to the University’s educational mission. The campus already has substantial public policy relevant expertise throughout its departments and colleges. And it has a few professional degree programs in which this expertise is effectively harnessed for professional education in public policy. Although we expect that there will be many opportunities for cooperation and collaboration between the program proposed here and these existing programs of public policy professional education, the program proposed here is not primarily about those existing programs. Rather, it is about providing a flexible platform for professional education in public policy for all of the PSU scholars falling outside or between those existing efforts. The program proposed here is about establishing a general platform for public policy professional education that is open to and adaptable for all members of the University Park community doing public policy relevant research and having an interest in professional education.

The final consideration in terms of rationale for a new degree program concerns the offering of the degree within the College of the Liberal Arts. There are two reasons for recommending that the new M.P.P. degree be placed in the College of the Liberal Arts. First, the M.P.P. degree curriculum outlined later in this proposal has a strong core curriculum of 36 credits. Consistent with other APPAM-type programs, the substantive content of this core curriculum draws uniquely from the disciplines represented by the College’s Departments of Economics, Political Science, Sociology, Psychology, and the School of Labor and Employment Relations (LER). While the specialization tracks offered as part of the M.P.P. program will inevitably reflect disciplinary foci that lie within the College of the Liberal Arts, expertise that would have to be reproduced in their entirety should the new degree program be established outside of the College. Second, consistent with the goals outlined in the current strategic plan of the University, such placement will markedly enhance the College’s capacity to address the specific policy-oriented goals of the University as a whole and better integrate the College’s efforts to achieve those goals in cooperation with other public policy focused initiatives extant or emerging across the University. The curriculum, in addition to the core of 36 hours, also includes more than the 12 credits of courses in the public policy specialization tracks drawing from across the University Park campus. Much of the content in these tracks will be offered by faculty and programs outside the College, again drawing on already established courses.

II. Public Affairs Professional Education

Public affairs professional education comes in two flavors: public administration and public policy. Although the two labels are used somewhat promiscuously with respect to
the actual content of degree programs, they are commonly associated with M.P.A. (Master in Public Administration) and M.P.P. (Master of Public Policy) degrees, respectively. PSU already offers a M.P.A. degree program at its Harrisburg campus. No Pennsylvania State University campus now offers a Master of Public Policy degree. In examining these two distinct approaches to public affairs education, we first discuss the relationship between M.P.P. and M.P.A. degrees in general and then turn to considering the specific relationship between the PSU Harrisburg M.P.A. and the proposed M.P.P. degree to be offered at the University Park campus.

II-A. The M.P.P. and the M.P.A. Degrees in General

As two types of public affairs professional Master degrees, the M.P.P. and the M.P.A. are broadly associated with two separate scholarly associations with which such programs are typically affiliated: respectively, the American Society for Public Administration (ASPA) and the Association of Public Policy Analysis and Management (APPAM). Many public affairs schools, such as the School of Public and Environmental Affairs at Indiana University, offer both degrees, as do American University and George Washington University. While this is hardly surprising given that both approaches to public affairs education are closely related to each other, this is also clear evidence that the two degrees are viewed as distinctive in terms of their approaches to public affairs education. Other universities offer the M.P.A. and M.P.P. in separate administrative units. This includes the University of North Carolina at Chapel Hill and Rutgers University. We propose to follow the UNC and Rutgers model in offering the M.P.A. and the M.P.P. in separate administrative units – indeed, on separate campuses of Pennsylvania State University,

While there were initially some significant differences between the M.P.A. and M.P.P., they have nevertheless converged to some degree since 1980 to have a common set of core program requirements. Further, as discussed more at the end of this proposal, both types of programs are now accredited through NASPAA – the National Association of Schools of Public Affairs, and Administration. NASPAA was largely founded by M.P.A. programs and was initially quite dependent on ASPA for both office space and funding. Given this close association with public administration, NASPAA efforts to establish accreditation standards – adopted in 1974 and implemented in 1983 – were resisted to some degree by APPAM

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5 Programs oriented toward public policy are often labeled public administration, and programs oriented toward public administration are often labeled public policy. And either might be labeled public affairs. You must look to the content of the curriculum, not the name of the administrative unit or even the degree offered.

6 The Department of Public Policy at UNC offers a BS and a PhD, but it also teaches a wide variety of professional masters students through its public policy certificate program.

7 At UNC-Chapel Hill, the M.P.A. degree is offered by the Institute of Government while public policy degrees are offered by the Department of Public Policy. At Rutgers, the M.P.P. degree is offered by the Bloustein School of Planning and Public Policy and the M.P.A. degree by the School of Public Affairs and Administration.

affiliated programs for some time. But the mid-1990s, NASPAA had become the accepted accrediting body for Master of Public Administration, Master of Public Policy, and Master of Public Affairs degree programs.

Still, substantive differences remain, differences that justify offering both degree programs. In a random sample survey of traditional M.P.A. programs and APPAM affiliated M.P.P. programs, Averch and Dluhy reported that, “The APPAM sample indicates that the core requirements, curriculum, and courses are heavily analytical and or oriented toward decision-making, problem solving, and using analytical and quantitative tools to answer critical organizational and policy questions.” In contrast, Clark, Eisen, Lennon, and Pal reported, based on a sample of 122 M.P.A. and M.P.P. programs, that M.P.A. programs were far more likely to require distinct courses in human resources and information and technology management. Even more important differences remain in the structuring of specializations in the two types of degree programs. While hybrid programs are common, the classic public administration degree offers specialization options by administrative function: budgeting and finance, public management, public personnel administration, and so on. The classic public policy degree, in contrast, tends to offer specializations in policy content areas: transportation policy, environmental policy, criminal justice policy, science and technology policy, and so on. And these differences are recognized externally. The U.S. News and World Report separately ranks M.P.P. and M.P.A. programs under, respectively, the headings of “public policy analysis” and “public administration.” And perhaps most importantly when considering how the proposed M.P.P. program might fit into a University that already houses an M.P.A. program at its Harrisburg campus, M.P.P. and M.P.A. programs attract different kinds of students. Infield and Adams 2011 factor analysis of a survey of M.P.A. and M.P.P. students indicated that, “Despite ongoing discussions about whether M.P.A. and M.P.P. curricula and students are converging, these M.P.A. and M.P.P. students – matched in terms of their ages, gender distribution, work experience, university location, tuition costs, local job market, and preferred career sector – still differed to a nontrivial degree in the types of work they want to do. Compared to M.P.P. students, M.P.A.s showed a markedly greater interest in managerial roles; and compared to M.P.A. students, the M.P.P.s evidenced consistently stronger motivations to master quantitative

analytical techniques and to critique public policies.” In short, M.P.P. and M.P.A. programs still differ in a number of ways.

Given these two options for public affairs professional education, we propose to establish a new M.P.P. degree designed to affiliate with APPAM and to be accredited by NASPAA. A focus on public policy is more consistent with the policy-focused thematic goals of the current strategic plan of the University. And such a focus is better designed to take advantage of the considerably diverse and deep substantive policy expertise uniquely available on the University Park campus. Those strengths are in substantive policy fields as diverse as health policy, energy policy, environmental policy, information sciences and technology policy, family and child policy, food and agriculture policy, and science and technology policy among many others. While it is likely that not all of these strong fields of substantive policy strength will be converted into formal public policy specialization tracks offered by the M.P.P. degree program, it should be clear the University Park campus has a wealth of potential public policy expertise available to it.

The recommendation to design an M.P.P. degree to be affiliated with APPAM is based on the fact that all of the best public policy Master degree programs in the country are so affiliated. If our goal is to establish a nationally competitive program, then the new degree program should be designed and implemented with APPAM affiliation in mind. Further it must be accredited by NASPAA, as are all of the best programs in the country. Importantly, this has a number of implications for the content and structure of the program. APPAM affiliated and NASPAA accredited public policy programs, with some variation, are of very similar length (two-year degree programs) and content in terms of courses, internship and capstone course requirements, and governance structure. That is, APPAM affiliated and NASPAA accredited programs already provide a well-established and strong architecture for public policy professional education. The M.P.P. program proposed here replicates the common elements of these programs.

II-B. The University Park M.P.P. and the Harrisburg M.P.A.

Going beyond a general comparison of M.P.A. and M.P.P. degrees, there are several important issues that must be addressed in considering the relationship between the proposed University Park M.P.P. degree and already established Harrisburg M.P.A. degree. As already noted, the PSU Harrisburg campus offers a Master of Public Administration (M.P.A.) degree both in residence and on-line. Their long-standing 36-credit residential program has an established place in The Pennsylvania State University and in the public service community of central Pennsylvania. The on-line program is newer and, in addition to the 18-hour core, offers an array of specialization electives that include both public

14 As is discussed below, all but five of the top 33 ranked public policy analysis programs are institutional members of APPAM.
15 There are many public affairs programs (M.P.A. and M.P.P. degree programs) that are not affiliated with either APPAM or NASPAA. These tend to be shorter in program length, have more idiosyncratic course content, and are varied in their requirements for internships. They are also less reputable in terms of their standing as nationally competitive degree programs.
policy and administrative function courses. Offering an M.P.A. degree in Harrisburg and an M.P.P. in University Park follows the Rutgers and North Carolina model of offering the two degrees in separate administrative units of the University, albeit on different campus. Other universities offer both in a single administrative setting.

Offering two related degrees by a single university merits further and considerable attention here because our on-going discussions with the Harrisburg M.P.A. faculty indicate that they have concerns about establishing an M.P.P. degree at the University Park campus. On first face, these concerns might seem compelling. However, closer examination suggests that a University Park M.P.P. degree would neither duplicate what is done by the Harrisburg M.P.A. nor constitute a threat to that program. Each of these issues is addressed below via answers to specific questions.

First, is duplication of similar or even identical degree programs always an impediment to establishing a new degree program at PSU? Penn State’s Graduate School guidelines for proposals of new graduate programs require that they have a statement that the new degree program does not duplicate other degree programs in the University. There are good reasons for this requirement. But based on what the University offers at its several campuses, this is hardly a firm or absolute barrier to establishing a new degree program. Indeed, some of the Master’s level degree programs now offered at multiple Penn State campuses include accounting, applied clinical psychology, business administration, communications, computer science, criminal justice, electrical engineering, engineering science, health administration, and teaching, lifelong learning, and adult education. It is clear that the Graduate School guidelines for new degree proposals do not imply an exclusive placement of any given degree program on only a single campus of the University. Rather, practice suggests that while Pennsylvania State University eschews unnecessary duplication, it welcomes programs that service its individual campuses, and this sometimes calls for hosting similar or related degree programs on more than a single campus. The real question, then, must be whether any similarity is useful or merited in terms of the missions of the several PSU campuses. The following questions better address this more realistic standard of evaluation.

Second, does an M.P.P. degree replicate what an M.P.A. degree provides? As we have noted, M.P.P. and M.P.A. degrees have converged somewhat over the last 20 years in their core requirements and are now accredited by the same organization – NASPAA. But we have also cited the scholarly literature and external recognition by league tables suggesting that the two degrees remain distinctive in several ways, including in terms of their relative emphasis on analytical and quantitative tools, the types of public affairs specialization tracks they offer, and, importantly, the career ambitions of the students they attract.16 This is true even though the PSU Harrisburg M.P.A. degree offers a specialization in policy analysis. This at best duplicates for a few students selecting this specialization parts of the core curriculum of the proposed M.P.P. degree without offering the full range of substantive policy specialization tracks available at University Park, although even this is not obvious,

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16 We will also see below that job posting websites also separately list public policy and public administration employment positions.
as is discussed further below. Moreover, the fact that many universities offer both degrees – more commonly within a single administrative unit and less commonly in separate units – suggests that the differences between the M.P.A. and M.P.P. are widely recognized by universities offering professional education in public affairs. In short, albeit closely related, these are two distinct degree programs. Given this recognized distinction, offering an M.P.P. degree on the University Park campus would not duplicate what the M.P.A. degree offers on the Harrisburg campus.

Third, can the Harrisburg M.P.A. program duplicate what the proposed University Park M.P.P. core curriculum will do? In our later discussion of the proposed core of the M.P.P. curriculum, we provide a course-by-course comparison of the Harrisburg M.P.A. degree requirement with those we are proposing. There is clearly some overlap. But this is hardly surprising given that it is in their core requirements that M.P.A. and M.P.P. degrees are most similar. But differences remain, as is discussed more thoroughly in the course-by-course comparison presented later. But for now, our comparison suggests that a Harrisburg M.P.A. student could potentially piece together some of the core curriculum of the University Park M.P.P. by combining together bits and pieces of several Harrisburg M.P.A. classes, including both electives and required courses. It is not clear that many do so. More telling, however, it is not clear that they really can do so in a way that fully replicates the core of the proposed M.P.P. curriculum. This is because the PSU Harrisburg M.P.A. is one of the relatively few 36-credit M.P.A. programs still accredited by NASPA. The core curriculum of the Harrisburg M.P.A. program consists of 18 credits, with 15 credits of electives and 3 credits for the internship; this means that students take 11 formal courses to graduate. Since the topics addressed in the required and elective courses in the two programs differ, the content of the University Park M.P.P. courses is distributed across a number of different courses within the Harrisburg M.P.A. program. To better understand this distribution, the Harrisburg M.P.A. program helpfully provided us with a crosswalk table showing how the content of the University Park M.P.P. is distributed across their courses. They argued that their table demonstrates that the content of the University Park M.P.P. core curriculum could be realized via the students opting for the M.P.A.’s public policy analysis specialization. But the crosswalk table actually does the opposite. Indeed, their table of course comparisons suggests that a Harrisburg M.P.A. student would have to take at least 13 3-credit courses to duplicate the core program of the proposed M.P.P. degree – 13 courses in a degree program requiring only 11 courses for graduation, both required and elective. More importantly, however, the most telling difference between the M.P.A. and M.P.P. degrees lies in their approach to substantive public policy specialization tracks, for which there simply would be no room at all in the Harrisburg M.P.A. program if their students tried to replicate the core of the 48-credit University Park M.P.P. degree by opting for their public policy specialization track within a 36-credit program.

Fourth, can the Harrisburg M.P.A. do what the proposed University Park M.P.P. degree

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17 It is worth noting here that the Harrisburg M.P.A. faculty statement that some of the topics addressed by separate courses in the M.P.P. program are addressed across several classes suggests that our individual M.P.P. classes are not duplicative of the Harrisburg M.P.A. programs courses.

18 The fact that such a table of comparisons was needed suggests that our courses do not duplicate theirs.
proposes to do in terms of public policy specialization tracks? One of our primary goals of proposing to establish an M.P.P. degree program at University Park is to take advantage of the very broad and deep expertise in public policy issues found on PSU’s main campus, especially through policy specialization tracks offered by the M.P.P. degree program. PSU Harrisburg cannot replicate that depth and breadth of substantive public policy expertise found at University Park. The University Park M.P.P. degree will offer a broad range of specific public policy specialization tracks. In contrast, most of the Harrisburg M.P.A. degree specializations emphasize administration and management concerns rather than public policy per se. Specifically, the specialization tracks offered by the PSU Harrisburg’s M.P.A. program are Government Administration, Health Care Management and Policy, Human Resources Management, Information Resource Management, Policy Analysis, and Criminal Justice. And where public policy issues are addressed, the specialization tracks are quite limited in number and constitute a modest part of their enrollment. And, as we have seen, even these specializations would not be available to Harrisburg M.P.A. students should they attempt to replicate the core curriculum of 48-credit University Park M.P.P. program within the 36-credit M.P.A. program. For example, the Harrisburg M.P.A. offers specializations in Health Management and Policy and Criminal Justice, both of which might have a public policy component. But these would not be available to students if, as we have seen, they tried to replicate the University Park core curriculum by specializing in policy analysis. It just cannot be done within a 36-credit program. Even more telling, separated by considerable distance, the students and faculty in the PSU Harrisburg M.P.A. program cannot readily take advantage of the broad and deep public policy expertise uniquely available at the University Park campus. While we may imagine that distance learning or collaboration technologies have reduced the barriers of geographic distance, students and faculty cannot be in regular, personal contact with the University Park faculty in their areas of interest. Offering an M.P.P. degree on the University Park campus would uniquely place it in a position to exploit that campus’ exceptional breadth and depth of substantive policy expertise in a way that the PSU Harrisburg campus’s M.P.A. program is simply not situated to provide.

Fifth, does a University Park M.P.P. degree program threaten the Harrisburg M.P.A. program? In our discussions with representatives of the Harrisburg M.P.A. program, it was very clear that this was a major concern about the proposed M.P.P. degree. And we acknowledge the many stresses their program faces. The Harrisburg M.P.A. program was ranked 57th in the most recent U.S. News and World Report league table. And it was not ranked among the top 50 by Top Management Programs in their league table of public administration programs. And while enrollment in the Harrisburg residential M.P.A. program averaged 98 students over the last six years, it has declined from 144 students in 2011-2012 to only 61 students in 2016-2017. Indeed, the Harrisburg M.P.A. program admits that it has had a more difficult time recruiting state government employees with the end of tuition subsidies provided by Pennsylvania state government to its employees.

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19 Italics are our own.
21 This has been balanced somewhat by a steadier pattern of enrollment in their on-line M.P.A. program, which averaged 214 from 2011-2012 to 2015-2016.
Moreover, the Harrisburg M.P.A. program is facing new competitive challenges within the state and local governmentally rich Harrisburg metropolitan area with the M.P.A. programs of Villanova University, West Chester University, and Shippensburg State University opening satellite campuses in Harrisburg and Temple University discussing plans to do so. These other universities obviously believe that untapped enrollment opportunities remain that are not being fully exploited by the Harrisburg M.P.A. program. In short, the concerns of the Harrisburg M.P.A. program about their program in general and about yet another source of competition in specific are not unjustified, at least in the abstract.

Importantly, however, the proposed University Park M.P.P. degree program is very unlikely to add much in the way of further stress on that difficult competitive market. Simply put, we will not compete for the same types of students. In the most recent 5-year period for which we have complete data, 70.32 percent of the Harrisburg M.P.A. students enrolled in their on-line program, and another 20.32 percent of their students were enrolled in their residential program part-time. Students enroll in residential programs part-time or enroll in on-line programs for good reasons. They are unlikely to view the full-time, in-residence M.P.P. program as a competitor; we do not plan to establish a part time program, and the proposed M.P.P. program has no immediate plans to establish an on-line program. Thus, for the 90.64 percent of students enrolled in the Harrisburg M.P.A. program from 2011-2012 to 2015-2016, the proposed University Park M.P.P. degree does not pose a competitive threat.

This leaves the 9.35 percent of the students – 29 students – who were enrolled full-time in the residential Harrisburg M.P.A. program in 2015-2016. Are these types of students likely to view the University Park M.P.P. as a competitive option? We think it unlikely. First, while the Harrisburg campus asserts that preparing students for careers in state and local governmental administration is “only one the focus areas of M.P.A. program,” their illustrative list of internship placements – with the exception of the U.S. Army – are all in or concerned about state and local government. This is not surprising, and it is certainly appropriate. The Harrisburg campus sits in the state capitol and within a metropolitan area rich in mid-sized local governments. The Harrisburg M.P.A. program also has a strong alumni representation in these governments, something that is a marked advantage when securing internships and job placements. Whatever the M.P.A. program’s stated ambitions about becoming a national-oriented program, focusing on state and local government is the obvious and natural niche for the Harrisburg M.P.A. program. In contrast the University Park M.P.P. program will be primarily focused on national-level public policy. Students

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22 All of the programs require 36 credits and only West Chester’s is NASPAA accredited.
23 This is especially important to the viability to Harrisburg M.P.A.’s on-line program where students do, in contrast to the more restrictive options provided by the specializations in its residential program, have some access to substantive public policy courses provided on-line by the University’s World Campus. It is here where the Harrisburg M.P.A. and the UP M.P.P. degree are potentially perhaps most similar. But without an on-line program of its own, and because students choose on-line programs for good and sufficient reasons of their own, the UP M.P.P. degree is unlikely to compete with the on-line Harrisburg M.P.A. program.
24 This is from pages 5 and 6 of the Harrisburg written response to an earlier version of this proposal.
25 From 2011-2012 through 2015-2016, 76.22 percent of in-residence annual enrollment in the Harrisburg M.P.A. program was in-state.
interested in state and local governmental administration should enroll in the Harrisburg M.P.A. program, not the University Park M.P.P. program. Second, while these students are enrolled in full-time residence, many, as is common among those seeking professional masters degrees, are likely to have strong personal ties to communities where they pursue their professional education. The two-plus hour drive to State College on a daily basis is unlikely to be attractive to these students. Third, the Harrisburg M.P.A. degree entails a competitive advantage for some students in terms of its commitment of time; it requires only 36 credits rather than the 48 required for the proposed University Park M.P.P. degree. Those interested in a shorter program of study, but indifferent to the type of public affairs professional education they receive, should pursue the Harrisburg M.P.A. degree. Fourth, however, we do not – following the work of Infield and Adams already cited – think that most students are so indifferent in terms of the career ambitions of their students. And we have seen that an M.P.A. degree focused on administration is not the same as an M.P.P. degree focused on public policy. The M.P.A. degree program at Harrisburg should, therefore, have a marked competitive advantage for students interested in the former rather than the latter. For all of these reasons, we do not believe that the proposed University Park M.P.P. program will threaten even the small minority of students enrolled full-time in the residential program of the Harrisburg M.P.A. program.

In sum, we recognize that the Harrisburg M.P.A. program may face a number of challenges. But the Harrisburg M.P.A. cannot do what the proposed University Park M.P.P. degree program will do. Conversely, the proposed University Park degree will not do what the Harrisburg M.P.A. program does in terms of its natural niche in state and local governmental administration. And perhaps most importantly from the perspective of enrollment, the University Park M.P.P. degree will not provide much in the way of real competition for the Harrisburg M.P.A. program. This is certainly the case for the 90 percent of its students enrolled on-line or part-time. And importantly, the small size of this competitive threat to the fewer than 10 percent of the Harrisburg M.P.A. students enrolled in their full-time residence program pales in comparison to the clear benefits of establishing an M.P.P. program on the University Park campus discussed earlier. In our view, the Harrisburg M.P.A. program could better address its competitive environment by reclaiming students interested in state and local administration in the face of the much more direct threats posed by the entrance of Villanova University, Shippensburg State University, and West Chester University into the Harrisburg M.P.A. market.

III. Resources Required for an APPAM-Type M.P.P. Degree Program

Three characteristics of M.P.P. programs have a direct bearing on issues of new

26 The Harrisburg M.P.A. degree will likely be compelled for reasons of local competition to maintain its 36-credit program given that the other universities moving into the Harrisburg market or thinking about doing so are all 36 credit programs.

courses and new faculty and staff resources. First, M.P.P. degree programs are *lumpy* in the sense that students in cohorts of 25 to 30 must take all courses of the required core curriculum together. If significantly larger numbers of students were admitted, offering multiple sections of the core courses would be necessary, thereby doubling the faculty resources required for the core portion of the degree curriculum. To efficiently run a professional public affairs Master degree program, we need to think in terms of cohorts of 25 to 30 students at a time, with a cohort of 25 to 30 students being an initial target. Second, M.P.P. curricula are *rigid* in that all of the core courses and likely some of the specialization courses have to be offered every year in sequence. There are few options for substituting core courses when faculty members are not available because of vacancies, course releases, or sabbaticals. And third, M.P.P. programs are administratively *burdensome*. That is, while there will be relatively few students in the program, faculty will have to recruit 25 to 30 students per year as well as secure internships for them, supervise their capstone projects, and place them in public policy positions. This burden will be compounded during the early years of the program given the need to establish new patterns of student recruitment and placement in internships and employment early in the life of the program in very competitive academic and government environments.

Given these traits, the M.P.P. Degree program will require new faculty and staff positions as well as new courses within the 36-hour core of the program and the one credit internship class. The core of the M.P.P. degree program falls largely within the disciplinary remit of the Departments of Economics, Political Science, Sociology, and Psychology. These departments, however, do not now offer the full array of 800-level professional Master degree courses expected of an APPAM type program accredited via NASPAA. Even when Ph.D. classes related to the core curriculum of the policy degree program are on the books, they are now rarely taught. And since the core courses of the M.P.P. program are all required, it would be very difficult to include M.P.P. students in these current course offerings, most of which are, in any case, designed for Ph.D. education. Combining Ph.D. and M.P.P. students in a class would diminish the experience for both. Thus, while the substantive content expected from the departments contributing to the core of the curriculum are well within their disciplinary competencies, these departments are not now well prepared to readily provide them to a new M.P.P. program.

In terms of faculty positions, current faculty members are already – and appropriately – committed to existing department priorities. Further, while much of the core content of the M.P.P. curriculum fall squarely within the disciplinary competencies of departments within the College of the Liberal Arts, they are not now well configured in terms of their faculty rosters to teach M.P.P. courses. This is especially so given anticipated retirements by the few faculty who are teaching topics relevant to the proposed M.P.P. core curriculum. Thus, several new faculty lines will be required for the M.P.P. program in order to teach the core of the curriculum. Further, these faculty members will of necessity carry a significant administrative burden. In terms of governance, one of the very most difficult things to demonstrate to NASPAA is that there is a strong core of committed faculty engaged in the governance of the degree program. NASPAA is well aware of the significant administration responsibilities associated with recruiting and advising 25 to 30 students each year, directing capstone projects, and placing them in internships and employment
opportunities. This turns out to be a rather hard test to pass in the accreditation process. Just having a long list of faculty somehow or somewhere involved in the program will not be sufficient. In practical terms, this means having seven FTE faculty members who are committed in terms of administrative and instructional time to the degree program even if, as is expected, many others participate in the M.P.P. program in some way. The most recent (2013-2014) NASPAA Annual Accreditation Data Report\(^{28}\) for which complete data are provided indicates that the modal program has from to six to ten FTE faculty (93 of 191 programs), with only 32 reporting five or fewer FTE faculty. Thus, on average, we would be on the lower side of FTE commitment. But public affairs programs differ markedly in size, with some schools of public policy, public administration, or public affairs being quite large and offering multiple degrees (M.P.A, M.P.P., PH.D., and others). Our proposed program will offer only an M.P.P. degree and, at least initially, is designed for only a single cohort of 30 students. But the good governance criterion also means that most of the faculty members associated with the degree program should be tenured in it while allowing others to serve in both the M.P.P. program and contributing disciplinary departments via joint appointments. Indeed, having at least a few faculty members jointly tenured in the M.P.P. program and disciplinary departments is essential in terms of linking the M.P.P. degree program to those departments on a continuing basis so as assure disciplinary rigor.

In thinking about these resource requirements, we start with the issue of faculty teaching loads. M.P.P. degree programs have an unusually heavy administrative load for their faculty given their requirements for internships, capstone projects, and placement. For purposes of generating an estimate of resource requirements, we assume that each of the faculty members with tenure lines in the M.P.P. program will teach three classes per academic year. We also assume that the M.P.P. Graduate Program Head will receive a course release each semester and that the Director of Graduate Studies will receive a course release each year.\(^{29}\) With 12 courses in the core (11 substantive courses and the one credit internship course), this will require that five faculty tenure lines be assigned to the program to teach the core, at least two of which should be mid- to senior-level appointments, and with at least one preferably having some prior familiarity with APPAM-type programs and NASPAA accreditation. When appropriate, these program-tenured faculty members should have courtesy appointments in the disciplinary departments they choose to affiliate with so as to link that M.P.P. program to the departments. These appointments will provide for minimal coverage of the 12-course core of the M.P.P. program.

This, of course, is a bare minimum. It assumes that no faculty vacancies occur, no sabbaticals are provided, and there is no release time associated with grant research. It also assumes that five bodies will be sufficient to carry on the administrative tasks associated with a professional degree in public policy. Even more importantly, it assumes


\(^{29}\) The Graduate Program Head, in addition to the usual administrative burdens associated with leadership in a disciplinary department, will necessarily spend a considerable amount of time maintaining the cooperation of the disciplinary departments as well as those offering specialization courses so as to ensure student access to needed courses. The Director of Graduate Studies will be heavily involved in approving specialization programs of study, capstone/theses, internships, and placements for 30 students each year.
that the faculty tenured in the M.P.P. program will have no interest in teaching classes in their own policy specializations. And last, tenure lines provided only in the M.P.P. program may not sufficiently link it to the interests of the contributing disciplinary departments. For these reasons, three or four additional joint appointment faculty lines should be provided, with 50 percent tenure in the M.P.P. program and 50 percent in a disciplinary department affiliated with the M.P.P. program. These would, together, constitute two additional FTE lines to the M.P.P. program. These positions could be new faculty lines in the College or, preferably, existing College lines soon to become vacant due to retirements that are rededicated in part to the M.P.P. program. Their base teaching load should be the same as those required in the disciplinary departments. Three or four joint appointments would provide slack for the curriculum needed to allow for vacancies and the teaching of courses associated with the policy specialization interests of both program-tenured and jointly appointed faculty. These appointments would also increase the number of faculty members able to assist in the administrative tasks of the policy curriculum. And such joint appointments are necessary given the need for an additional incentive for disciplinary departments to participate in the curriculum. A final advantage of such joint appointments is that provide disciplinary departments the capacity to build Ph.D. program specializations that are complementary to the public policy focus of the M.P.P. program.

To offer classes in the 2019-2020 academic year, then, the College of the Liberal Arts is planning to recruit a M.P.P. Graduate Program Head during the 2017-2018 year. During the 2018-2019 year, the Graduate Program Head shall recruit approximately half of the new faculty required to run the M.P.P. program. During the first year of the M.P.P. degree program (2019-2020), the remaining new faculty positions will be filled so as to offer a full two-year’s worth of courses in 2020-2021.

Governance and financial costs also depend on the staff support behind the significant and continuing efforts to recruit students, manage capstone projects, and placing students in internships and employment opportunities. Especially important, more than simple clerical support will be required to make an M.P.P. degree program successful. This may well require, for example, a major investment in placing someone – faculty or professional staff – in Washington, D.C. to search for internships and build connections appropriate for placing students into career opportunities. We propose that an initial staff position be filled in the Spring of 2018 so as to assist in preparing to recruit the first cohort of students during the 2018-2019 academic year for instruction during the following year. The Graduate Program Head will determine during the 2018-2019 academic year if additional staff position requests are necessary to implement the M.P.P. degree program and/or whether the M.P.P. program might cooperate with other policy related units on campus in developing both internship and career opportunities for M.P.P. students.

Finally, an M.P.P. program must have sufficient space to allow faculty and students to engage in their teaching, research, and service activities. The College of the Liberal Arts is now discussing these space requirements with the Provost.

IV. Objectives of the M.P.P. Program
The Master of Public Policy Degree program will provide professional training in public policy for those seeking careers in the design, adoption, implementation, and evaluation of public policies. More specifically and in keeping with APPAM type programs, it seeks through the core of the program to provide broad training in topics rooted in the social science disciplines of economics, political science, sociology, and industrial psychology housed in the College of the Liberal Arts. And through its specialization courses, provided by both departments in the College and across the University, it seeks to offer students policy relevant training across the full spectrum of policy expertise found on the University Park campus. Further, while we are necessarily giving most of our attention to teaching given that this is a proposal for a new degree program, the new M.P.P. degree program should provide both a structured focus for the research interests of those faculty members across the College and the University interested in public policy and programmatic capacity to support complementary Ph.D. training in public policy in the disciplinary departments associated with the M.P.P. degree program. Indeed, we hope that the new program will provide by its attention to public policy issues strong incentives for non-M.P.P. faculty to affiliate with the M.P.P. program via courtesy appointments, participation in research seminars and specialization track courses, and other activities.

M.P.P. students should be prepared for a full range of professional careers for which public policy expertise would be valued: government agencies, think tanks and consulting firms, non-profit organizations, and lobby firms and private sector organizations engaged in public affairs analysis and interest representation. As reported on the NASPAA website, and addressing both M.P.P. and M.P.A. degrees, M.P.A./M.P.P. graduates are found in a wide variety of workplaces, but are especially attracted to the public and nonprofit sectors. Data provided by NASPAA from a survey of recent graduates of NASPAA-accredited programs from a survey of M.P.P./M.P.A. graduates shows that almost half of 2011 graduates were working in government six months after graduating. Of those, there is a roughly even split between federal, state, and local levels. M.P.A. graduates were more likely than M.P.P. alumni to be working in government or nonprofit, while a higher percentage of M.P.P. grads were in the private sector. Of those in the private sector, 64 percent were conducting research or consulting.”

Based on the survey of recent graduates of NASPAA accredited M.P.A./M.P.P. programs, Table 1 reports the entry-level salaries for a range of positions in which public affairs students are typically placed.

The employment markets for these kinds of positions appear quite steady, although it is difficult to be precise given the inherent heterogeneity of the types of jobs for the M.P.P. degree would be appropriate. This is evident in Figure 1, which reports the proportion of job postings for public policy positions on the Indeed.com recruiting website from the beginning of 2014 through June of 2017, with the proportion of public administration job

30 The most recent (2013-2014) NASPAA Annual Accreditation Data Report for which complete data are provided (https://naspaaaccreditation.files.wordpress.com/2015/09/2014-15-data-report-for-web.pdf) indicates the types of placements of NASPAA accredited master of public affairs degrees: government (42%), nonprofit (28%), private sector (20%), unemployed (6%), and seeking further education (4%).
31 http://publicservicecareers.org/career-resources/employment-salary-trend/
32 http://publicservicecareers.org/career-resources/employment-salary-trend/
postings as a contrast. Public policy job postings were quite stable over this period, as indicated by the flat linear trend line in Figure 1, although there was a marked increase in the proportion of public policy job postings during 2017. The negative linear trend line for public administration job postings, in contrast, indicates a relative decline of such openings over the 2014-2017 period. In terms of the future, it is again difficult to provide firm estimates of the employment markets that are appropriate for M.P.P. graduates given the heterogeneity of such positions. But for the very narrowly defined position of “budget and policy analyst,” the U.S government projects a modest but steady three percent growth in the number of positions from 2014 to 2024.\textsuperscript{33}

In terms of meeting student demand for professional public affairs professional education, it does not appear that the market is saturated. In the most recent (2013-2014) NASPAA Annual Accreditation Data Report, NASPAA reported that, “accredited programs received 29,783 total student applicants. Of those, 19,707 were admitted, making an overall admission rate of 66 percent. Eventually, 12,096 out of the 19,707 admitted students enrolled in one of the accredited programs, making the overall enrollment rate 61 percent.”\textsuperscript{34} While these acceptance rates are higher – and always have been so – than those for other professional masters degree programs, such as MBA programs, there is good reason to expect that these data on the level of selectivity in public affairs professional degree programs mask somewhat the potential demand for M.P.P. professional degrees. That is, the NASPAA data do not distinguish between M.P.A. and M.P.P. programs. This is important because there are far many more M.P.A. programs than there are M.P.P. programs. Further, we have just indicated that, based on recent job postings, the employment market for public policy positions is stronger than is the market for public administration positions. Given this disparity in the supply and demand for public policy and public administration professional training, we think that there is likely to be sufficient student demand for M.P.P. professional degrees in the future for a PSU M.P.P. program to establish a viable niche in the ecology of public affairs professional education.

How well does Pennsylvania State University address this demand today? While, as already noted, Pennsylvania State University currently has a few degree programs that provide professional training in a few fields of public policy, these are quite specific to a few substantive fields or loci of public policy. \textit{There is no general home for students interested in substantive public policy issues at University Park}. For example, the School of International Affairs on the University Park campus provides training in several fields of public policy focused on international affairs. In contrast, the M.P.P. program will focus on professional training suitable for service in domestic government agencies, think tanks and consulting firms, non-profit organizations, and lobby firms and private sector organizations engaged in public affairs representation. Just as importantly, the strong rooting of the core curriculum of the M.P.P. in the substantive competencies found in the disciplines represented by departments in the College of the Liberal Arts will provide broader training than found in the School of International Affairs, as is discussed below. The PSU Capitol College M.P.A.

\textsuperscript{33}https://www.careeronestop.org/Toolkit/StateAndLocal/ProjectedEmployment.aspx?soccode=%20132031
&location=UNITED%20STATES

program primarily places its graduates in state and local government administration, something that is unsurprising and quite appropriate given its location in the capitol. In contrast, the M.P.P. program will, again, focus on professional training suitable for a broader range of placements in public service in government agencies, think tanks and consulting firms, non-profit organizations, and lobby firms and private sector organizations engaged in public affairs representation. This Capitol College program has a solid cohort of full time residential students, but the majority of its residential students are part time. We anticipate that most of our students will be full time. Further, through its specialization courses, the M.P.P. program will focus more squarely on public policy analysis rather than public administration. We anticipate that a large number of specialization tracks will develop in addition to those presented here given the breadth of public policy expertise at the main campus of PSU. Importantly, this will distinguish the M.P.P. degree on the University Park campus from the Harrisburg M.P.A. degree, which has far fewer opportunities to develop public policy specialization tracks. And obviously, while the Harrisburg campus and the nearby Hershey Health Center have a number of scholars with substantive policy expertise, it is not well placed geographically to easily leverage the considerable substantive public policy expertise widely available at the University Park campus.

More specific policy programs now available on the University Park campus, such as the Department of Energy and Mineral Engineering’s undergraduate major in Energy Business and Finance, often lack the broad foundation in the disciplinary departments in the College of the Liberal Arts that will be a hallmark of an M.P.P. Degree program and/or are not aimed at professional training at the master degree level. Others, like the master degree in Health Policy and Administration, focus on one specific area of public policy. While valuable degrees in their own right, such policy specific programs cannot by their nature provide a comprehensive platform on which to provide general public policy professional Master degree training designed to take advantage of the full range of public policy expertise across the University Park campus. Again, we expect that there will be many opportunities for cooperation and collaboration between the M.P.P. program and these existing public policy specialized programs. But the M.P.P. program is not primarily about the existing specialized programs for specialized professional policy education at University Park campus. Rather, it is about providing a flexible platform for professional education in public policy for all of the PSU students and scholars falling outside or between those existing silos of public policy expertise and professional education. In short, no current program of professional study in the College or on the UP campus of the University can do what the M.P.P. degree program proposes to do.

Going beyond policy programs now offered by Pennsylvania State University, the

35 In discussing drafts of this proposal with colleagues on campus, we were often asked about further additions to the program in the form of joint degree, IUGs, and/or on-line programs. All of these are possible and common in M.P.P. programs in other universities. Quite simply, M.P.P. degrees are like a good tinker toy piece in that they readily connect to other pieces. We expect that our proposed M.P.P. degree program will also evolve in some of these directions once it is established. But for now, we are focused on establishing the first piece – the Penn State M.P.P. program.

36 More specific comparisons of the course contents of these programs with the content of the proposed M.P.P. degree will be provided below when discussing the M.P.P. curriculum.
core of the M.P.P. degree program falls largely within the disciplinary remit of the Departments of Economics, Political Science, Sociology, and Psychology. But, as noted earlier, these departments, do not now offer an array of 800-level professional Master degree courses expected of an APPAM type program. Even when classes, usually Ph.D. classes, related to the core curriculum of the policy degree program are on the books, they are now rarely taught. And since the core courses of the M.P.P. program are all required, it would be very difficult to include M.P.P. students in current course offerings, most of which are designed for Ph.D. education and its inherent focus on research rather than application. That said, the specialization requirements of the M.P.P. program might well allow some graduate classes in disciplinary departments to be offered that may not otherwise be able to secure sufficient enrollment. Similarly, the core courses offered in the public policy program may be useful classes for degree concentrations within disciplinary departments that remain underexploited. For example, the Department of Political Science now recruits few graduate students interested in public policy given the Department’s limited commitment – in terms of hiring and course offerings – to this topic area of the discipline. Through its core curriculum and faculty, the public policy program could well contribute to the revitalization of this area of graduate study in the Department of Political Science and the recruitment of good students with public policy research interests.

V. The M.P.P. Curriculum

The proposed curriculum of the M.P.P. degree program is examined below in three steps, first looking at its core curriculum, then examining that core in comparison to both other M.P.P. programs and other professional masters degrees offered by PSU, and last by discussion the curriculum's specialization tracks.

V-A. The Core Curriculum of the M.P.P. Degree

The M.P.P. program of study is designed to be an on-campus two-year program of study as is typical of APPAM affiliated and NASPAA accredited professional public policy Master programs. Given the structure of APPAM affiliated and NASPAA accredited public policy programs, this would be difficult to change if the program seeks to establish a nationally competitive program. Table 2 outlines the 36 credit hour core curriculum of the proposed M.P.P. program. All but two of the core courses in the core are new 800-level classes as is appropriate for professional education within the PSU system. The exceptions are two new statistical methods classes: PPOL 503 (3 credits) and PPOL 506 (3 credits). The new courses are listed under a new PPOL designation for professional-level courses unique to the M.P.P. program.37

37 Some students will have prior disciplinary-based training in some of the core courses during their undergraduate degree programs. For example, students with undergraduate degrees in economics may not need to duplicate that prior work in the two core courses in the M.P.P. program related to that field. In such cases, M.P.P. programs, on a case-by-case basis, typically require students to take either more advanced classes in the disciplinary field and/or additional specialization courses. In terms of expectations about the frequency of such cases, the range of undergraduate degrees recently admitted to the Trachtenberg School of Public Policy and Administration at George Washington University may be instructive: Political Science (36%), Social Science (15%) International Relations (12%), History (6%), Business (5%), Economics (4%), Public
The first year is designed to address three social science disciplinary-based topics expected of a M.P.P. program. Additionally, a basic two-course sequence in quantitative analysis would be required in the first year of study.

- The first pair of classes – *The Public Policy Process* (PPOL 801) and *Bureaucracy and the Policy Process* (PPOL 805) – address core political science topics found in M.P.P. programs. The first reviews macro-level theories of the policy adoption and the basic governmental institutions that govern it. The second addresses more micro-level processes of bureaucratic politics and governance that influence public policy implementation and execution.

- A second pair of courses includes two courses in the economics component of the core: *Economic Analysis for Public Policy* (PPOL 802) and *Public Finance and Budgeting* (PPOL 808). The first would be similar to introductory courses in microeconomics found in the Economics Department with an additional emphasis on its relevance for public policy. The second would be a standard public finance course with some additional emphasis on the budgetary process.\(^{38}\)

- The third pair represents topics that would most likely be taught by faculty whose disciplinary backgrounds represent sociology and/or industrial psychology. The first is *Public Sector Organization Theory* (PPOL 804), which would provide a review of major theories in the field. The second is *Managing Public Sector Organizations* (PPOL 807), which would provide a more micro-level, organizational behavior focus on managing people within organizations.\(^{39}\)

- The fourth set of courses – *Introductory Statistics for Public Policy* (PPOL 503) and *Intermediate Statistics for Public Policy* (PPOL 506) – represents a standard set of quantitative analysis classes with the latter focused on regression and regression-like methods of analysis, with practical applications to public policy. These should be able to be taught by any number of faculty members associated with the program.

The summer between to the two years of study entails completing a one credit public policy internship (PPOL 895). These internships will require M.P.P. faculty supervision equivalent to teaching a class with both written and oral assessments of student performance.

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\(^{38}\) In Master of Public Administration programs, in contrast, such a course typically would be much more heavily oriented toward issues associated with the budgetary process.

\(^{39}\) On their face, these two courses – and perhaps *Bureaucracy and the Policy Process* (PPOL 805) – may seem to have somewhat less obvious focus on public policy per se in comparison to other courses in the proposed curriculum. However, as APPAM affiliated programs have evolved over time, much more attention to organization and management issues has been added to curricula to reflect the management term in the APPAM acronym. These two courses reflect that evolution (Lowery, David and Gordon P. Whitaker. 1994. “Comparing Public Administration and Policy Analysis Approaches to Public Service Education.” *American Review of Public Administration* 24 (1): 25-42.)
The first semester of the second year of the program includes several elements, the most important of which introduce students to the heart of actually doing policy analysis and evaluation.

- That heart includes two courses: Public Policy Analysis (PPOL 809) and Policy and Program Evaluation (PPOL 810). The former would be a prospective policy analysis class with a heavy emphasis on applied microeconomic methods. The latter would focus on retrospective policy and program evaluation with a strong emphasis on experimental and quasi-experimental design.

- The second element of the third semester of on-campus study would be the first two of four electives on some specific public policy specialization track offered by the program or designed by the student and approved by the program. We will discuss the specialization tracks separately in the following section of this proposal.

The final semester of study continues the themes of specialization electives and a focus on doing public policy analysis and evaluation. The final two public policy specialization electives would be completed. And students will complete a Public Policy Project Design and Methods course (PPOL 811). This is a class that will guide the design, execution, and writing of their capstone projects, which will serve as students’ culminating experience (PPOL 894). The Public Policy Project Design and Methods class and the Capstone Experience itself will constitute 3 credit hours each. Some M.P.P. programs require that the capstone projects be formally presented at an annual capstone conference in which internship providers, potential employers, and other stakeholders in the program are invited to attend. We propose to do so as well, counting the presentation as the formal defense of the M.P.P. culminating experience.40

In addition to these required classes, the M.P.P. program will also offer a special topics class (PPOL 897). Courses taught under this designation will address specific, substantive public policy issues such as science and technology policy or immigration policy that might be part of students’ specialization courses within the Master of Public Policy program. They may also address specific methods of public policy analysis, such as time series analysis or cost-benefit analysis, not addressed in the Master of Public Policy degree program’s required research methods courses. The four elective courses required for a policy specialization in the M.P.P. program will be drawn largely from other academic programs on campus, where much of the expertise on substantive public policy context and application are to be found. However, M.P.P. faculty may have their own substantive public policy or methodological interests that go beyond the content of the required courses in the M.P.P. program. PPOL 897 will allow them to pursue those interests in the classroom. The goals of the course and their means of assessing student achievement of them will vary depending on the class.

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40 The instructor of PPOL 811 and the capstone advisor (PPOL 899) will constitute the M.P.P. capstone committee.
V-B. The PSU M.P.P. Core Curriculum in Comparison

How does the proposed core curriculum compare to either existing policy relevant degrees offered by PSU or the public policy professional master degrees offered by other universities? Table 3 compares the core requirements of the proposed M.P.P. degree (column 1) with the core requirements of the master degrees now offered on the University Park campus in International Affairs and Health Policy and Administration and the M.P.A. degree offered at the PSU Harrisburg campus. The Master of International Affairs degree (column 2) does require an economics and introductory statistics class, but it does not address the topics addressed by the remaining eight substantive courses in the core of the proposed M.P.P. program. It also requires either a capstone experience or a master’s paper, but not both. The Master in Health Policy and Administration degree (column 4) requires five courses (broadly defined) addressing issues related to those in the core courses of the M.P.P. degree, although all are narrowly – and appropriately – tailored toward health policy and organizations. But the degree does not address through full courses of study the topics addressed by the M.P.P. classes in the Public Policy Process, Economic Analysis for Public Policy, Bureaucracy and the Policy Process, Managing Public Organizations, and Public Policy Analysis, nor does (column 3) it require an internship experience. And the primary emphasis of the degree program, based on discussions with their program faculty, is on administration rather than public policy per se.

The core requirements of the Harrisburg campus’ M.P.A. are more similar to the proposed M.P.P. degree, something that is not surprising given that the M.P.A. and M.P.P. degrees are close cousins and both are accredited by NASPAA. Still, the core of the PSU-Harrisburg M.P.A. degree does not require full courses of study of the Public Policy Process, Economic Analysis for Public Policy, Bureaucracy and the Policy Process, Intermediate Statistics for Public Policy, and Policy and Program Evaluation even if, as we have seen, some of the topics addressed in these classes are addressed in part in their required courses and via elective courses within it public policy specialization. But as we have also already seen, even this coverage would be difficult within Harrisburg 36 credit M.P.A. program, in contrast to the 49 hours of the proposed M.P.P. degree. And a focus on paralleling our proposed core within the Harrisburg M.P.A. program would leave no room for the substantive public policy issue specializations offered in the proposed University Park M.P.P. degree program. It is worth noting here that the fact that some of these issues are addressed across several classes rather than as full courses suggests that our individual M.P.P. classes are not duplicative of the Harrisburg M.P.A. programs courses. But more importantly, the most significant difference between classic M.P.A. and classic M.P.P. degree programs lies in their approach to specialization tracks, not their core requirements, a topic to which we will shortly turn.

Table 4 provides a comparison of the core requirements of our proposed M.P.P. degree and other degree programs listed among the top 33 programs in public policy analysis by U.S. News and World Report, as discussed later in this proposal. Our program,

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41 These comparisons necessarily may be subject to some error given that they are based on information provided by these programs’ websites.
of course and by design, closely parallels other major M.P.P. programs. And all of these programs are similar at their core. If we are to offer a nationally competitive M.P.P. program, the PSU M.P.P. will be similar to these programs. These particular programs were selected because they have relatively fixed core requirements. Indeed, examination of the data indicates that the proposed PSU M.P.P. is broadly similar to those of other M.P.P. programs. But it is a somewhat course heavy curriculum; it requires more core courses than any of the comparable public policy professional degree programs, although comparable courses to any one of the PSU M.P.P. courses can be found across the full set of comparisons. There are two motivations underlying our proposing more required core courses than is typical among M.P.P. programs.

The first and most important is substantive. The most striking difference of our core from that of comparable programs is the requirement of more than a single course addressing public sector organizations. The PSU M.P.P. degree requires three such courses: PPOL 804: Public Sector Organization Theory, PPOL 805: Bureaucracy and the Policy Process, and PPOL 807: Managing Public Organizations. In contrast, most programs typically address the issues raised in these three courses in a single class, most often labeled a class in management, but likely considering some of the topics from all three of the proposed PSU M.P.P. classes. Quite simply, we believe that there is enough distinct content in these courses to justify attention via three separate classes. Public Sector Organization Theory (PPOL 804) addresses the structural design of public service institutions, while Managing Public Organizations (PPOL 807) examines behavior within and between organizations. And Bureaucracy and Public Policy (PPOL 805) is better thought of as a second policy process course in which economics of organization models are employed to understand how political principles control bureaucratic agents so as to influence policy implementation. All three courses are now needed to fully understand how public policy is designed for delivery, implemented, and governed in an era when public policy is as likely to be expressed through market regulation and quasi-market provision via contracts and vouchers as by traditional public organizations. A less clear cut difference is that the proposed PSU M.P.P. program requires a more complete set of policy analysis classes, including both a class in prospective (PPOL 808) and retrospective (PPOL 809) policy analysis. The methods used in these two classes – microeconomic analysis and experimental and quasi-experimental design, respectively – are sufficiently important and different from each other so as to merit attention through separate courses.

A second reason for proposing a fuller set of courses is more pragmatic. Having more required courses will mean that students have fewer options in designing their core programs. With a more defined menu of courses, this means that the core curriculum can be taught more efficiently in terms of faculty time, with more students included in a smaller number of classes. Of these two rationales, however, the former is more important and determinative of the M.P.P. program we are proposing.

42 Many others offer more complex sets of options that are difficult to represent in the simplified format provided in Table 3.
43 Given the many footnotes in Table 3, it is also worth noting the courses that are not included in the core of the proposed M.P.P. program. A few programs require a separate course in ethics. The PSU M.P.P. program
V-C. Policy Specializations Tracks of a PSU Master Degree in Public Policy

One of the key rationales for establishing a M.P.P. degree program is to leverage the considerable substantive public policy expertise of the College and University so as to better serve government policy makers and others with a compelling interest in the design and implementation of public policy. Accordingly, the curriculum discussed in the previous section of this proposal indicates that the M.P.P. program requires four specialization track elective courses. These specializations will be considered “tracks” in formal parlance, and so they may be modified or added to over time as the program and campus expertise evolves. Three broad issues need to be considered when considering the courses included in the public policy specialization tracks, issues that informed their design.

The first and most obvious of these tradeoffs concerns the number of specialization tracks offered. Most M.P.P. programs offer relatively few specializations – typically from some combination of health, criminal justice, and environmental policy along with a research methods specialization and a “design your own” specialization option. The advantage of offering few is that it ensures a strong niche identity for the program so as to narrow the focus of student recruitment and placement. But there are costs associated with such a narrow menu. If, for example, the program offered specializations in health and environmental policy – priorities mentioned in the current PSU strategic plan – and one other, and 10 students opted for each per year, this would entail fitting 10 new students into existing classes as well as ensuring that these classes were offered on a regular basis. It would seem difficult for departments offering specializations appropriate to the M.P.P. degree to accommodate this. While departments might be happy and able to admit two or three students into their courses, it is less likely that they would accept 10 or more. In this scenario, we think it likely that the M.P.P. degree program would either have to develop and offer these classes on its own or purchase new sections of the courses from contributing departments so as to secure access to them and their regular offering. If the former, this would double the number of courses (four courses x three different specializations) offered by the program and necessitate that three or four additional faculty lines be allocated to the program. Further, we do not yet know how student interests will determine the selection of specializations. Targeting the PSU strategic plan’s priorities of health and environmental would place us in a very competitive market; almost all competitive programs now offer specializations in these fields and have done so for decades. Indeed, the University has some professional public policy professional education programs in a few of these fields.

addresses ethical issues within classes, such as the ethics of experimental and quasi-experimental research designs in PPOL 503. A couple of programs require courses law and public policy. This topic too is treated within classes in the PSU M.P.P. degree program, such as PPOL 801, in which laws are discussed as one means of adopting policies. Looking more broadly at all APPAM-type policy programs via a random sample of both, legal focused courses are rather rare (see: Averch, Harvey and Milan Dluhy. 1992. “Teaching Public Administration, Public Management, and Policy Analysis.” Journal of Policy Analysis and Management.” 11 (3), p. 544.), although we anticipate pursuing a law and public policy through a specialization track. Other required courses seem more idiosyncratic to specific programs, such as the University of Kentucky's Martin School’s requirement of PA 624: Government Information Systems and PA 683: Tax Policy.
In contrast, as will be seen in discussion of our menu of fixed and potential specializations, Penn State University Park has a wide array of relatively unique substantive competencies where there is no existing program of professional public policy education, and where we might secure a competitive advantage. Indeed, providing public policy professional education that leverages the full array of public policy expertise found in the University is one of the central purposes underlying our design of the M.P.P. curriculum. For these reasons, we plan to offer a wide range of M.P.P. policy specialization tracks including an option for specialization tracks to be designed by students with approval by the M.P.P. degree program. This will allow students to develop specializations not yet identified in our brief survey of opportunities.

A second and related tradeoff concerns the number of specialization tracks taught within the M.P.P. program as distinct courses offered by it. There are good reasons to think that some specialization courses will be taught within the program as core faculty teaching interests lead inevitably to some specialization courses offered via the special topics class (PPOL 897). Faculty members recruited to provide the core courses would inevitably have their own policy specialization interests, some methodological, others substantive, interests that they will want to pursue in the classroom. Given these competing pressures, we assume that most, but not all, of the specialization courses will be taught by contributing departments rather than by faculty tenured all or in part in the M.P.P. program itself. The estimation of M.P.P. program resource requirements is designed accordingly.

Finally, there is a tradeoff to be considered in terms of the level of courses in the specialization tracks. As will be evident in the menu of plausible specializations provided below, several list 400 level courses. Requiring that only graduate classes satisfy a specialization would arguably make the program more rigorous. And requiring graduate classes will certainly be appropriate for those students with undergraduate degrees in fields closely associated with a chosen specialization. Still, Graduate Council policy allows up to 30 credits from advanced undergraduate courses in professional master degree programs with at least 48 hours of total credits, courses that may well be appropriate for those with little prior exposure to the area of study. And importantly in terms of coordination costs, undergraduate courses are taught more frequently than graduate classes, and it is far easier to fit a number of M.P.P. students into an undergraduate course than it is into a graduate course. For these reasons, we plan to allow the full 12 credits of 400-level courses, subject to approval of the M.P.P. program, given the student’s prior experience and course availability.

We expect to develop a large number of established public policy specialization tracks with partner programs. Specialization courses will be approved by the M.P.P.

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44 Graduate Council policy requires 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, for professional master’s degrees. For professional master’s degrees that require the minimum of 30 credits, 12 credits at the 400 level is allowed. However, as the minimum credits for the professional master’s degree increases, this number also increases; for this program, with a minimum of 49 credits, up to 30 credits could be at the 400 level.

45 However, 400-level elective specialization courses will require a grade of C or better to count toward the four course specialization in the M.P.P. degree program.
Graduate Program Head for individual students. At this time, we have established agreements with units on campus to constitute the first six of the public policy specialization tracks in the curriculum. We are now engaged in discussion with units on others, and welcome additional ideas and discussions with prospective partners. Table 5 offers a survey of the policy expertise and the courses reflecting what is now offered on the University Park campus and for which we have secured memoranda of understanding (MOU) with the respective units to teach the specialization courses. These include six specializations: i. Criminal Justice, ii. Health, iii. Labor and Employment, iv. Children and Family policy, v. Information Science and Technology, and, vi. Policy Analysis or research methods. The first two specialization tracks – Criminal Justice and Health policy – mirror those commonly found in M.P.P. programs. The next three – Labor and Employment policy, Information Sciences Technology, and Children and Family policy – represents a set of relatively rare policy specialization tracks available in other M.P.P. programs. The M.P.P. program will also include a “design your own” specialization, as is common in M.P.P. programs nationally. The MOUs for these specialization tracks are provided in the appendix of this proposal. They provide a narrative statement about the focus of each public policy specialization track and outline an agreement to offer several specific courses on a regular basis, to allow M.P.P. students access to them, specify revenue sharing arrangements, and insure that students in partner units have access to M.P.P. program courses. There was considerable enthusiasm about the M.P.P. program from the units offering the courses in these initial specialization tracks.

The development of additional public policy specialization tracks is expected to be a continuing process over the life of the M.P.P. program as new areas of substantive public policy focus and expertise develop or emerge on the University Park campus, and as the core policy curriculum attracts interest. Indeed, we have initiated conversations with several other units to establish a number of additional specialization tracks even as we submit this core program proposal. We view PSU’s ability to offer an unusually diverse set of public policy specializations tied to many different areas of public policy expertise as a key opportunity to distinguish our M.P.P. program from those offered at other universities. These include potential specializations in: i. Energy, ii. Environmental, iii. Education, iv. Food and Agricultural, v. Sports, vi. Bioethics, vii. International, and viii. Science and Technology policy. These are all fields in which Penn State has considerable strength, and several would be quite unique specialization offerings within M.P.P. programs nationally. During the remainder of this year and on an on-going basis, we will continue discussions with other units with the object of developing MOUs similar to those already established. Importantly, however, the viability of the proposed M.P.P. program does not require that all of these potential specialization tracks – and others we have not yet identified – be finalized now as formal offerings in the M.P.P. curriculum. We have enough firm specialization tracks, both typical and uncommon tracks relative to other M.P.P. programs, to suggest that the proposed program will have a solid curriculum in terms of course offerings.

We expect that the M.P.P. program will establish a number of policies with regard to policy specializations. While we will leave the final determination of these issues to the M.P.P. program faculty, two of these issues deserve some attention now. The first concerns the number of courses required to declare a specialization. While all students will be
required to take four specialization track electives, should two, three, or four of these four elective classes be adequate to declare sufficient competence to constitute substantive policy specialization? If that number is higher, it will be easier for students to market themselves as experts in their chosen field of specialization. But requiring four courses to declare a specialization raises considerable coordination costs in terms of ensuring that the classes offered outside the M.P.P. program are routinely taught and M.P.P. students have ready access to them. To reduce these costs, we recommend to the M.P.P. faculty that the number of courses required for a specialization be set at a minimum of two. This will spread M.P.P. students across a greater number of courses and allow ready substitution of one specialization course for another. However, students could well choose – and might be encouraged – to establish stronger specialization identities by taken all of their four elective courses in a single specialization track.

A second issue concerns M.P.P. program oversight of the specialization tracks. The relationships among courses in different specializations vary. For some specializations, courses are readily substitutable and there is little sequencing among them. For others, particularly those requiring more technical skills such as the policy analysis/methods specialization, some considerable sequencing will be required. Further, as is typical of M.P.P. programs, students will arrive on campus with a broad range of prior educational experiences. Some, for example, will be well prepared to take advanced methods courses while others will lack the requisite background. For these reasons, the M.P.P. program, working closely with the partners offering the courses, will have to exercise strong oversight over the selection of specialization courses. We recommend that the M.P.P. faculty require students to develop a plan of study for their specialization and obtain formal approval during the spring term of their first year of study.

Our MOUs specify details of appropriate courses for each specialization, and any necessary sequencing, along with an agreement to offer the appropriate number of seats. The MOU also welcomes students from partner departments into M.P.P. core courses if attractive and appropriate for their course of study, as determined by the student's home department. Finally, the MOU specifies details of revenue sharing with partners based on the number of M.P.P. students taking courses in those departments.

In sum, we propose that students have access to a wide range of specializations, that a minimum of two classes be required to declare a specialization, and that up to 12 credits of 400-level courses in the specialization be permitted depending on a student's prior experience, course availability, and M.P.P. program approval. In making these choices, we are largely guided by the need to minimize the coordination costs associated with the specializations and the financial costs of the M.P.P. degree in terms of new faculty lines. In more general terms, most of the teaching of courses in the specializations lie within other units within the College and University by design. However, with enough tracks and enough courses within tracks, we anticipate that no one course will be overwhelmed with M.P.P. students. The MOUs we have negotiated include revenue sharing provisions. Where relevant, by admitting M.P.P. students, more of the partner programs’ own courses will have sufficient enrollment to be taught on a regular basis. We also include PPOL 897: Special Topics in Public Policy in the curriculum to accommodate the specialized policy interests of
VI. Admission Requirements

Consistent with our survey of other APPAM affiliated M.P.P. degree programs, the PSU M.P.P. program will not require a specific undergraduate major for admission to the program. It is purposely open to students from any undergraduate major. Many M.P.P. programs similarly have no minimum undergraduate grade point average requirement. Those that do, however, typically set a minimum GPA of 3.0 in the undergraduate major.

We will do so as well. There will be no language requirement or requirement for prior course work. Students will apply via an on-line application in which they provide a current résumé or curriculum vitae showing relevant awards, academic achievements, full- and part-time job experience, internships, and volunteer work. They will also provide a personal essay with a 5,000-word limit introducing themselves to the admissions committee and discussing their professional goals and why they believe an M.P.P. degree can help attain them. While the M.P.P. program will have no minimum score for application, GRE or GMAT scores will be required, taken within five years of the date of the application. International applicants must submit either the TOEFL or the IELTS, with the scores sent directly to Graduate Enrollment Services.

Applicants with a score of 19 or higher on the speaking section of the TOEFL Internet-based test will be considered for admission, though a score of 23 or higher is desirable. The minimum IELTS score required for admission is 7.0 (overall, and in each of the subsections).

When completing the online application, students will be asked to upload copies of official transcripts from all colleges and

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46 In terms of expectations about the frequency of such cases, the range of undergraduate degrees recently admitted to the Trachtenberg School of Public Policy and Administration at George Washington University may be instructive: Political Science (36%), Social Science (15%) International Relations (12%), History (6%), Business (5%), Economics (4%), Public Administration (2%), and other (20%). This is a typical distribution of student undergraduate majors in an M.P.P. program.

47 In terms of comparative expectations, Duke University’s Sanford School of Public Policy reports that the range of their most recent M.P.P. cohort’s GPAs fell from 3.4 to 3.8. George Washington University’s Trachtenberg School of Public Policy and Administration reports that the GPA of their most recent cohort to be 3.5. And GPA of the University of Maryland’s M.P.P. program’s most recent cohort of students ranged from 3.5 to 4.0. The most recent cohort of the University of California’s Goldman School of Public Policy average GPA was 3.68 with a range from 3.1 to 4.0. And the most recent cohort of the University of Michigan’s Gerald R. Ford School of Public Policy was 3.4.

48 Again in terms of comparative expectations, Duke University’s Sanford School of Public Policy reports that the all of their most recent M.P.P. cohort’s GRE scores were at or above the 25 percentile, the same as that reported by the University of Michigan Gerald R. Ford School of Public Policy. The median GRE percentiles of the most recent cohort of George Washington University’s Trachtenberg School of Public Policy and Administration were as follows: verbal (75th), writing (65th), and quantitative (56th). The comparable median percentiles for the GPA the University of Maryland’s M.P.P. program’s most recent cohort of students were 73, 60, and 61 percent, respectively. The average GRE scores for the most recent cohort of the University of California’s Goldman School of Public Policy average 159 (quantitative), 162 (verbal), and analytical (4.5).

49 Some international applicants are exempt from the English proficiency requirement in accordance with Graduate Council policy. Consult the English proficiency section of the Graduate Bulletin Application and Admission Procedures page for more information.
universities they have attended, whether or not they earned a degree. Students will upload a scanned copy of an official transcript generated by student’s university’s registrar’s office. Self-reported transcripts, student grade reports, or copies of unofficial transcripts will not be accepted. Finally, two letters of recommendation will be required. Either professors who have taught the applicant or supervisors who have overseen his/her public policy work, either professionally or in a volunteer capacity, should write letters. These specific M.P.P. program admission requirements listed here are in addition to the requirements stated in the GENERAL INFORMATION section of the Pennsylvania State University Graduate Bulletin (http://bulletins.psu.edu/graduate/).

VII. Bulletin Listing

VII-A. The Program

The Master of Public Policy (M.P.P.) Degree program is designed to provide professional training in public policy for those seeking careers in the design, adoption, implementation, and evaluation of public policies. The professional careers students should be prepared for include the full range of careers for which public policy expertise would be valued: national, state, and local government agencies, think tanks and consulting firms, non-profit organizations, and lobby firms and private sector organizations engaged in public affairs representation. The core of the M.P.P. degree curriculum will provide students with a strong knowledge base relevant to public policy rooted in the social science disciplines of economics, political science, sociology, and industrial psychology housed in the College of the Liberal Arts along with training in quantitative policy analysis and evaluation. And through its specialization course requirements, it will provide students with public policy relevant training across a wide spectrum of substantive public policy areas drawing on expertise found on the University Park campus. Students will work closely with faculty to design a specialization curriculum around their core course work.

VII-B. 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. All applicants will submit GRE scores, résumé or curriculum vitae, two letters of recommendation, and a personal statement addressing their reasons for pursuing a graduate degree in public policy and discussing their plans and goals. 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. English proficiency test scores must meet or exceed the minimum acceptable scores listed in the Bulletin. Applicants with a score of 19 or higher on the speaking section of the TOEFL Internet-based test will be considered for admission, though a score of 23 or higher is desirable. The minimum IELTS score required for admission is 7.0 (overall, and in each of the subsections). Admissions will be based on a review of all submitted materials and spaces will be offered to the best qualified applicants, taking into account academic achievement, relevant work experience and other indices of
aptitude for advanced study in public policy.

**VII-C. Master's Degree Requirements**

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

A minimum of 49 credits at the 400, 500, or 800 level, with at least 18 credits at the 500 or 800 level and a minimum of 6 credits at the 500 level, is required. More specifically, the program requires 24 credits in 8 core courses that are designed to establish a base of knowledge in key subject areas reflecting the statistical skills and the disciplinary foundations from economics, political science, and organizational theory and management needed for successful careers in public policy: PPOL 801 (3 credits), PPOL 802 (3 credits), PPOL 503 (3 credits), PPOL 804 (3 credits), PPOL 805 (3 credits), PPOL 506 (3 credits), PPOL 807 (3 credits), and PPOL 808 (3 credits). Three additional courses in the core (9 credits) of the M.P.P. curriculum focus specifically on the practice of conducting prospective and retrospective public policy analyses: PPOL 809 (3 credits), PPOL 810 (3 credits), and PPOL 811 (3 credits). These 11 core courses, constituting 33 credits, are required for completion of the M.P.P. degree and include two courses at the 500 level. An additional four courses (12 credits) are required in the student’s field of public policy specialization. These courses will be selected by students with approval from by M.P.P. program and may be at the 400, 500, or 800 level. Students may count up to 12 credits in the fields of specialization from 400-level courses.

In addition to completing the core curriculum and the specialization curriculum, students are required to take a summer internship (PPOL 895, 1 credit), as approved by the M.P.P. program, between their two years of on-campus study. The internship placement should be of sufficient depth and professionalism that would allow the student to experience the integration of their curricular studies in an actual public policy professional environment. Successful completion of the internship will require an evaluation by the supervisor and a reflective paper.

In addition to these degree requirements, students must complete a capstone project as their master’s culminating experience. This entails completing both the Project Design and Methods class (PPOL 811, 3 credits and one of the 11 core courses listed above) and the capstone project requirement (PPOL 894, 3 credits). The capstone project will involve integrating and showing mastery of the subject matter of the student’s public policy specialization via conducting original research using prospective public policy analysis or retrospective program/policy evaluation. Successful defense of the capstone project will entail its presentation at an annual capstone conference sponsored by the M.P.P. program.

**VII-D. Student Aid**

Refer to the Student Aid section of the Graduate Bulletin. Students in this program are not eligible for graduate assistantships.
VII.D. 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.

VIII. Justification for Degree Title

The Master of Public Policy or M.P.P. degree became popular during the late 1960s as a number of academics with an interest in public affairs – especially economists – became dissatisfied with the content of current Master of Public Administration (M.P.A.) degree programs. They argued that a new type of degree program was needed because exiting M.P.A. programs were insufficiently focused on quantitative analytic skills and the tools of economic reasoning and over-emphasized administrative process. Since then, the M.P.P. degree was widely adopted as an alternative to the M.P.A. degree.

That said, two important caveats must be noted. First, while the M.P.A. and M.P.P. degrees are now recognized as constituting two distinct approaches to professional public affairs education, the core requirements of programs using the two degree labels – along with the less frequent Master of Public Affairs degree – overlap to a considerable degree with the kinds of professional public affairs training programs actually require of students. Some professional public affairs programs with a heavy emphasis on economics and quantitative analysis offer M.P.A. degrees. Conversely, other professional public affairs programs with a heavy emphasis on administrative process offer M.P.P. degrees. And either type of training might be conducted under a Master of Public Affairs degree label. And the two labels are often combined in interesting ways; for example, the University of Pittsburgh’s School of Public Policy and International Affairs offers an M.P.A. degree.

Second, largely in response to each other, classic M.P.A. and M.P.P. degrees, as already noted, converged to some degree in both their core curricula and specializations. During the 1980s, traditional M.P.A. programs were modified to offer more required training in microeconomics and quantitative analysis, and the curricula of the earliest M.P.P. programs were modified to give greater attention to organizational analysis and management. While differences in emphasis remain in the core curricula of M.P.A. and M.P.P. programs, they are not as sharp as they were during the 1970s. And it is common

for M.P.A. programs to now offer public policy specializations in a few fields, such as health or environmental policy, in addition to their traditional specializations in topics of administrative process, such budgeting or personnel administration. Indeed, the M.P.A. program offered by the PSU Harrisburg campus now offers, in addition to the traditional specializations of M.P.A. programs, a generalized specialization in public policy and a specialization in health policy and administration.\(^{53}\)

Nevertheless, the M.P.P. degree has several of the hallmarks of an established degree program. Many universities offer both degrees, a clear indication that they view them as distinct. Another such hallmark is the existence of a professional association. The two approaches to public affairs professional Master degrees are broadly associated with two separate bodies with which such programs are affiliated: respectively, classic M.P.A. programs with the American Society for Public Administration (ASPA) and classic public policy programs with the Association of Public Policy Analysis and Management (APPAM). The 90 or so degree programs associated with APPAM are reported in Table 6. Seven of the main campuses\(^{54}\) of Big 10 universities with public policy analysis oriented professional public affairs programs are members of APPAM: Indiana University, Northwestern University, Rutgers University, The Ohio State University, The University of Maryland, and The University of Michigan.\(^{55}\) Of these eight programs, most offer the M.P.P. degree, while The University of Wisconsin and Indiana University offer Master of Public Affairs degrees.\(^{56}\)

Another hallmark of an established professional degree program is external recognition via distinctive league tables of Master of Public Policy programs. Focusing on the content of the public affairs programs rather than their labels, The U.S. News and World Report separately ranks M.P.P. and M.P.A. programs under, respectively, the headings of “public policy analysis” and “public administration.”\(^{57}\) The latest U.S. News and World Report ranking of the top 33 programs in public policy analysis is reported in Table 7. Seven of the degree programs – five M.P.P. degree programs and two Master of Public Affairs programs – offered by the member universities of the Big 10 are included among the top 33 public policy analysis programs.\(^{58}\) In sum, the M.P.P. degree and distinctive education in the public policy analysis approach to professional public affairs education are well established, especially so among our peer Big 10 universities.\(^{59}\)

\(^{53}\) These elective courses reflect some of the required courses in the core of the proposed M.P.P. degree.

\(^{54}\) The University of Illinois’s program is housed on its Springfield campus.

\(^{55}\) Michigan State University offers an M.P.P. degree, but is not a member of APPAM.

\(^{56}\) It is also worth noting in terms of the content of its program that the M.P.A. program of the Harrisburg campus of PSU is not an institutional member of APPAM.


\(^{58}\) The M.P.P. degrees offered by Northwestern University and the Springfield campus of the University of Illinois were not ranked.

\(^{59}\) A comparison of Table 6 with Table 7 indicates that all but five of the top 33 ranked public policy analysis programs are also members of APPAM. The five top ranked programs that are not members of APPAM are Harvard University, The University of Wisconsin, The University of Georgia, Florida State University, and
Even more broadly, the profession of policy analyst has been at least informally recognized by the Office of Occupational Statistics and Employment Projections of the U.S. Bureau of Labor Statistics. And we have seen (Figure 1) that job posting websites also separately list public policy and public administration positions. And the unique political and analytic characteristics of the profession of policy analyst have themselves attracted scholarly attention for many years.

IX. Accreditation

The Association for Public Policy Analysis and Management (APPAM) is the primary professional association for M.P.P. degree programs. In 1978, the Sloan Foundation sponsored a conference on the public policy and management curriculum at Hilton Head, South Carolina. A proposal was made to create a new professional association of graduate schools of public policy and management. Representatives of 15 policy schools and research institutes formally created APPAM at a May 1979 conference at Duke University. Within a few years, APPAM evolved into a unique association of both individual and institutional members with an elected leadership and Policy Council (the Association’s board of directors). The first APPAM Fall Research Conference occurred in 1979 in Chicago. The first issue of the Journal of Policy Analysis and Management appeared in 1981. Starting in 1985, the Fall Research Conference has been held in Washington, D.C. in all odd years and outside Washington in all even years. The first meeting of APPAM’s Committee of Institutional Representatives, in combination with an annual Spring Conference, occurred in 1986. After years of being headquartered at Duke University and supported by part-time staff, the APPAM office moved to Washington, DC in 1993 and acquired a full-time executive director. APPAM has grown to approximately 2,500 individual members, 100 institutional members, five full-time staff, and an annual operating budget of $1.3 million.

All that said, APPAM is not an accrediting body for academic programs in public policy analysis. And our conversations (August 24, 2017) with the staff of APPAM indicate that there are no plans for APPAM to take on an accrediting function in the near future. Rather, Master of Public Administration, Master of Public Policy, and Master of Public Affairs degree programs are now accredited through NASPAA – the National Association of Schools of Public Affairs, and Administration. The M.P.P program will seek accreditation through NASPAA.

NASPAA was largely founded by M.P.A. programs, and its efforts to establish accreditation standards – adopted in 1974 – were resisted to some degree by APPAM.

Stanford University.


affiliated programs for some time given its dependent association with ASPA. But by the mid-1990s, however, NASPAA had become the accepted accrediting body for all public affairs professional degree programs. And, as we have seen there is a strong similarity in content in the core curricula of APPAM-affiliated public policy programs and their approaches to public policy analysis specialization tracks, presumably through self-selection.

NASPAA was founded 1970 from a predecessor organization, the Council on Graduate Education for Public Administration (CGEPA), and it issued its first standards for graduate education in public affairs in 1974. By 1976-1977, NASPAA, while not yet taking a step toward actual accreditation, established its first processes of peer review of self-study reports by member institutions. In 1983, those standards and peer review procedures were converted into a full accreditation process. Today NASPAA is the membership organization of graduate education programs in public policy, public affairs, public administration, and public and nonprofit management. It has nearly 300 members – located across the U.S. and in 14 countries around the globe – that award M.P.A., M.P.P., and similar degrees. It is the accepted accrediting body for M.P.P. programs. Indeed, all of the main-campus Big 10 APPAM members listed among the 33 top ranked public policy analysis programs reported in Table 7 are accredited by NASPAA.

To provide sufficient data and assessment processes required to complete a NASPAA accreditation review, programs should be in operation for at least a four-year period before seeking NASPAA accreditation. Programs that have not been in operation for at least four years must provide a rationale as to the sufficiency of program data to support an evaluation. Programs should also have a nucleus faculty of at least five full-time faculty members. The NASPAA accreditation website provides the following resources necessary to pursue accreditation, which the PSU M.P.P. program will do as soon as it is eligible to do so.

- **Official Standards and Policies:** the guiding documents of NASPAA Accreditation and the Commission on Peer Review and Accreditation, including COPRA Policy Statements;
- **Standard by Standard Guidance:** individual resources for programs completing Self-Study Reports for each of the seven NASPAA Standards, as well as diversity across the standards;
- **Strategic Planning and Assessment:** a guide to approaching the overall strategic

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64 The M.P.P. degrees of Northwestern University and Michigan State University are not accredited by NASPAA.

65 https://accreditation.naspaa.org/resources/
program evaluation aspects of NASPAA Accreditation

- **Peer Examples**: a collection of peer examples from programs in recent accreditation cohorts;
- **Roster of Accredited Programs**: the Roster of Accredited Programs, updated annually; and
- **Data on Accredited Programs**: the Annual Accreditation Data Report, as well as publicly available data on each accredited program.

**XI. Response from Departments/Colleges**

As part of the process of formal consideration of adopting an M.P.P. degree, this proposal was submitted on October 24, 2017 to a variety of interested parties, most of which are partner departments in the policy specializations of the M.P.P. program. We asked these interested parties to respond to the proposal in three weeks. The responses we received – which fall into three categories – are reported below.

The first set of responses we received, and constituting the overwhelming majority, include those that were extremely positive and fully endorse the establishment of the new degree program.

The School of International Affairs provided a second type of response. As seen below, Professor Scott Gartner, the Head of the School, was also enthusiastic about the substance of the M.P.P. degree program itself. But he suggested that the M.P.P. program, perhaps with the SIA and other units, should be administratively located at the level of the University rather than in the College of the Liberal Arts. Although there are a variety of quite different administrative arrangements housing M.P.P. programs available at other universities that might serve as viable models for our program, we argued earlier in the proposal that there are two good reasons for placing the M.P.P. degree in the College of the Liberal Arts.

First, the M.P.P. degree curriculum outlined in this proposal has a strong core curriculum of 36 credits. Consistent with other APPAM-type programs, the substantive content of this core curriculum draws uniquely from the disciplines represented by the College’s Departments of Economics, Political Science, Sociology, Psychology, and the School of Labor and Employment Relations. While the specialization tracks offered as part of the M.P.P. degree draw widely from the substantive policy interests and expertise of the College and the University as a whole, the core curriculum of any APPAM affiliated M.P.P. program will inevitably reflect disciplinary foci that lie within the College of the Liberal Arts, expertise that would have to be reproduced in their entirety should the new degree program be established outside of the College. And importantly, having the M.P.P. program more closely connected to cognate departments in the College of the Liberal Arts is appropriate so as to better ensure that the social scientists hired fully or jointly in the M.P.P. program meet their standards of scholarly rigor.
Second, consistent with the goals outlined in the current strategic plan of the University, such placement will markedly enhance the College’s capacity to address the specific policy-oriented goals of the University as a whole and better integrate the College’s efforts to achieve those goals in cooperation with other public policy focused initiatives extant or emerging across the University.

Finally, Professor Garner noted that there are considerable opportunities for cooperation between the School of International Affairs and the M.P.P. program in terms of shared classes and shared administrative capacity in the recruitment of students and in their placement in internships and public policy professional positions. We fully concur and will continue our conversations with SIA about developing additional policy specializations in international affairs – as already outlined in Professor Gartner’s response memo – and energy and resources policy, as well as opportunities for administrative sharing and cooperation, as this proposal is moves through the approval process and the M.P.P. program is established.

The third type of response, represented by only the submission from Professor Patria de Lancer Junes, Director of Public Affairs at the PSU Harrisburg campus, was clearly negative. During an earlier stage of the process, the one-page ACGE proposal was sent to the Harrisburg M.P.A. program. At that time, we also shared with Harrisburg an earlier draft of this proposal, and Dean Susan Welch, Associate Dean Scott Bennett, and Professor David Lowery traveled to Harrisburg to discuss both with a number of PSU Harrisburg faculty and administrators. Prior to these discussions, the Director of the Harrisburg M.P.A. program sent us a quite long response to the earlier draft of the M.P.P. degree proposal. As a result, this proposal was revised so as to address the concerns raised by Harrisburg. This point-by-point response to the Harrisburg objections to the earlier draft of the M.P.P. proposal is reported on pages 6 through 11 of this final draft of the proposal. In responding to this version of the proposal, as seen below, the Harrisburg M.P.P. program simply resubmitted their earlier response with no mention of or reference to the issues and arguments raised here on pages 6 through 11. As a result of further consultation, the Harrisburg M.P.A. program now no long objects to the establishment of the M.P.P. degree and has indicated that they will seek to establish one at the Harrisburg campus. Their last consultation response is included below.

October 27, 2017

Hi Scott,

I have re-read the full proposal. HPA still supports the program and look forward to hosting M.P.P. students in our courses.

If you need anything else, please let me know.

All the best,
October 30, 2017

Dear Scott,

Thank you for including the College of Health and Human Development in your consultation process for your Master of Public Policy degree proposal. We are in full support of the development of this degree program. As you have noted, our Departments of Health Policy and Administration and Human Development and Family Studies are likely to intersect with some of your public policy specializations, and will be good partners. We look forward to these collaborations and to future success of your new program.

Kathy

Kathryn Drager, PhD, CCC-SLP
Associate Dean for Research and Graduate Education
Professor of Communication Sciences and Disorders
College of Health and Human Development
The Pennsylvania State University
329 Health and Human Development Building
University Park, PA 16802

November 6, 2017

D. Scott Bennett, Associate Dean for Research and Graduate Studies
College of the Liberal Arts
105 Sparks Building
The Pennsylvania State University
University Park, PA 16802

Dear Scott,

I am very pleased to write in support of the creation of the new Masters of Public Policy (M.P.P.) degree program. The vision for the M.P.P. program is broadly interdisciplinary with rigorous core competencies but also links (both planned and potential) with several departments within the College of the Liberal Arts as well as departments from colleges
including Education, Agricultural Sciences and Health and Human Development. Indeed, I see the proposed program as a huge opportunity for the social and behavioral sciences at Penn State as students can draw on, serve as an integrative force, and by virtue of their applied research and policy activities help to build our translational research portfolio. Within the Social Science Research Institute (SSRI), the Population Research Institute, Federal Statistical Research Data Center, Network on Child Maltreatment Solutions, Clearinghouse for Military Family Readiness and Computational and Spatial Analysis Core are all sites for such potential synergies.

The College of the Liberal Arts makes sense as the home to the degree given its core of applied methods/statistics expertise of faculty in Political Science, Economics, and Sociology. Indeed, the scope and national and international prominence of these programs and faculty, together with other graduate programs and faculty at University Park, provide for a unique interdisciplinary training opportunity that is unmatched by other colleges and universities and will differentiate the proposed M.P.P. program from other M.P.P. and related programs. Looking ahead, the proposed M.P.P. degree could be a great add-on to a residential PhD or post doc experience for students from a range of University Park graduate programs.

I am very excited about the possibilities and hope that the M.P.P. program can be underway soon.

Sincerely,

Susan McHale, PhD
Director, Social Science Research Institute
Co-Director, Penn State Clinical and Translational Science Institute
Distinguished Professor, Human Development and Family Studies and Professor of Demography

November 7, 2017

Hi Scott and David,

I am writing to express my unqualified enthusiasm for the creation of a Master’s of Public Policy at University Park. A Master’s of Public Policy (M.P.P.) at UP would provide increased opportunities to coordinate pockets of policy research already existing on UP campus and strengthen some of the strategic initiatives on health and the environment already occurring on campus. The program would provide the conduit for increased interdisciplinary work on these important initiatives, creating additional opportunities for policy experts in different administrative units to collaborate on research and education in these important substantive policy areas. A Master’s in Public Policy associated with the Association for Public Policy Analysis and Management (APPAM) would provide an excellent complement to the existing Masters in Public Administration in Harrisburg. Public Policy Analysis and Public Administration provide two very different venues into
careers in government; I know in recent years we have sent our undergraduate majors who were less interested in the Public Administration career path to Public Policy schools at Syracuse and Georgetown. I expect that the creation of a Master's in Public Policy at University Park might provide opportunities for those students within the Penn State community. I believe the demand for Public Policy Analysis as a specific career enhancement with different training that a Master's in Public Administration is why many of the Big 10 schools, even those much further from Washington DC than Penn State, have worked to develop Master's in Public Policy over the years. Finally, I would be remiss if I did not point out that a M.P.P. would provide important synergies with the political science department. While our focus has always been and remains excellence in undergraduate education and within our Ph.D. program, which concentrates on social science-oriented research, a strong Master's in Public Policy would provide connections to public outreach, opportunities for policy research, and a wider intellectual community that would enhance both our undergraduate and graduate missions.

Sincerely, Lee Ann

Lee Ann Banaszak  
Professor and Head  
Department of political science  
The Pennsylvania State University  
319 Pond Laboratory  
University Park, PA 16802  

November 8, 2017

Dear Scott,

On behalf of the Department of Psychology, I am pleased to endorse the proposed Master of Public Policy degree program. The proposed program will take advantage of existing strengths, while also enhancing Penn State's presence in the policy arena.

Regards,

Mel

Melvin M. Mark,  
Professor and Head of Psychology  
Department of Psychology  
The Pennsylvania State University  
140 Moore Building  
University Park, PA 16802  

November 11, 2017
Associate Dean Bennett,

I support the Master of Public Policy (M.P.P.) degree proposed by the College of the Liberal Arts. I agree that there is a need for such a degree. As a graduate of a public administration program I can affirm that a public policy program serves a different purpose and a different kind of student than an M.P.A. degree.

I believe that the specializations proposed for the M.P.P. degree, in particular, provide opportunities that are not available in Penn State’s M.P.A. program. Specifically, the specialization in labor and employment relations policy will provide students with a very different background than the M.P.A. specialization track in human resource management (HRM), the track closest to the labor and employment relations policy specialization. HRM is a field of practice, whereas the labor and employment relations specialization will look at a range of public policies related to such issues as workforce development, workforce training, unemployment, income inequality, workplace discrimination, work and family, labor-management relations, workplace safety and health, occupations, and disabilities in the context of both the public and private sectors.

In sum, I think the proposed M.P.P. program will add a new, and needed, area of study to Penn State’s degree offerings and I support the proposal to create the degree.

Paul F. Clark

Paul F. Clark, Professor and Director
School of Labor and Employment Relations
Penn State University
5th Floor, Keller Bldg.
University Park, PA 16802

Sent: November 13, 2017 4:31 PM

Dear Scott,

I am writing to express the strongest endorsement possible of the proposed M.P.P. degree. Criminology and sociology (especially health) are emerging areas within the Association of Public Policy Analysis and Management (APPAM). At present, sociologists and criminologists doing applied public policy analysis do not consider the Penn State system as a viable location at which to do their work because the university system lacks an identifiable public policy program. Penn State currently has strengths in public policy administration (e.g., the Harrisburg M.P.A. program), but the absence of an applied public policy program at Penn State University Park has hindered our efforts to recruit highly talented faculty and students conducting applied research on key policy questions within sociology and criminology. While Penn State Harrisburg’s M.P.A. program fulfills an important role, sociologists and criminologists doing applied policy research seek an
APPAM-affiliated public policy program. The proposed Penn State University Park M.P.P. degree fits this mold, and thus would enable us to attract leading scholars and new students across the country to Penn State, which would include not only those interested in working directly in the M.P.P. program but also those who would find our current degrees more attractive with the option of being able to take some of the elective policy-specific courses outlined in the proposal.

Establishing the M.P.P. at University Park is a very important addition to the university landscape and is critical for the future of sociology and criminology. Growing the presence of sociology and criminology in APPAM would enhance our reputation and reach, and would also open new avenues of grant revenue, in an era in which it is becoming increasingly competitive to maintain our reach and funding streams. We cannot do this without an M.P.P. program.

Sincerely,

Eric

Eric P. Baumer, Department Head and Professor
Department of Sociology and Criminology
Pennsylvania State University
Oswald Tower 201
University Park, PA 16802

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From: Gartner, Scott [mailto:ssg13@psu.edu]
Sent: Friday, February 9, 2018 1:44 PM
To: Bennett, D. Scott <sbennett@psu.edu>
Subject: RE: Last formal consultation on MPP proposal

Dear Dean Bennett,

SIA agrees to not oppose the establishment of an MPP degree, and agrees to cooperate on current and future aspects of the MPP that tie closely to international affairs. As a concrete development, we have now signed a memorandum of understanding for the development of a specialization in International Public Policy. Our continued hope is that in the longer term, the MPP program may be open to a more synthetic approach to public policy education at Penn State that brings our programs together at a university-level.

Dr. Scott Sigmund Gartner
Director and Professor

---

D. Scott Bennett
Associate Dean for Research and Graduate Studies
Distinguished Professor of Political Science
College of the Liberal Arts  
RE: Support for MPP proposal

Dear Dr. Bennet,

On behalf of the faculty of the Master of Public Administration Program, I would like to thank you for meeting with us last December to discuss the concerns raised by the faculty about this proposal. We are satisfied with your response and support the proposal.

In addition, we will be submitting Harrisburg’s version of the proposal for approval. We look forward to working together with you and other colleagues to build this program at Penn State.

Sincerely,

Patria de Lancer Julnes, Ph.D.  
Director and Professor  
School of Public Affairs  
Penn State Harrisburg

From: John Hellmann [mailto:jrh3@psu.edu]  
Sent: Friday, February 2, 2018 7:20 AM  
To: D. Scott Bennett <sbennett@psu.edu>; Lee Kump <lrk4@psu.edu>  
Cc: Brian Hastings King <bhk2@psu.edu>; Seth Blumsack <sethb@psu.edu>  
Subject: Re: Last formal consultation on MPP program

Good morning Scott,

Hope you had a good Holiday, and things are going well for you in 2018.

Michael Verderame’s report in December pretty well summarized where EMS is in the consultation process:

EMS will submit revised consultation reflecting its support of the proposal in general, and its need to have careful and collaborative consultation regarding course and faculty capacity issues before it can participate in offering a specialization track.

Your observation below sums that up OK. EMS will not oppose the establishment of the MPP program, but we are not poised to participate in the early stages for reasons related to teaching loads and the need for more collaboration on program content. Having said that, we welcome additional discussion regarding how EMS could participate in the future.

John
From: Kevin Kinser [mailto:kpk9@psu.edu]  
Sent: Friday, February 2, 2018 9:05 AM  
To: D. Scott Bennett <sbennett@psu.edu>  
Cc: Rayne Sperling <rsd7@psu.edu>  
Subject: Re: Last formal consultation on the MPP degree

Thanks Scott. This looks fine to us. You’ve captured the sense of our meeting very nicely.

Best,
Kevin

On Feb 1, 2018, at 10:45 PM, D. Scott Bennett <sbennett@psu.edu> wrote:
Hi Kevin and Rayne. Thanks for joining David and I for our meeting about the MPP program two weeks ago. I felt good about our meeting, and I very much hope that we are able to cooperate as this program develops. I’m glad that you saw room for coordination!

The graduate curriculum committee has asked us to report formally on our consultation with you. This consultation would just be in the form of an email stating where we are in our discussions, and stating whether you have concerns or objections to the establishment of the degree.

My summary of where we are is that following a productive discussion in January, we have agreed that the College of Education and the Educational Theory and Policy Program do not oppose the establishment of an MPP degree. We will continue discussions about the development of possible specializations tied to education in the near future. We think that this may lead to a specialization titled something like “Education Policy,” but we do not have details of such specialization worked out yet.

I’d appreciate it if you would drop me a note verifying/summarizing any key elements of our consultation as you’d like to. I believe that something as simple as agreeing to the above summary (if it’s accurate) should suffice. And of course, if that doesn’t reflect things accurately from your view, please correct it.

Thank you!
Scott Bennett

XII. SARI Compliance

Penn State’s Scholarship and Research Integrity (SARI@PSU) program is designed to offer Penn State researchers and scholars comprehensive, multilevel training in the responsible conduct of research (RCR), in a way that is tailored to address the issues typically faced by individual disciplines. SARI@PSU programs address topics such as publication practices and responsible authorship, conflicts of interest, research misconduct, peer review, mentoring, data management, collaborative research, human subjects protections, and animal welfare. In general, SARI@PSU addresses these issues through two initiatives: an online RCR training program offered by CITI (Collaborative Institutional
Training Initiative at the University of Miami), and interactive, discussion-based RCR education. All graduate students at Penn State who matriculated in fall of 2009 or later are required to complete the SARI@PSU requirements prior to graduation. Beginning September 2011, the SARI@PSU program also requires participation by new full-time faculty, postdoctoral fellows, and undergraduate researchers. Although the participation requirements are less stringent for these groups, all SARI@PSU resources (courses, workshops, seminars) are available to any Penn State personnel. These requirements would apply to M.P.P. students.

The SARI@PSU program is directed by the Office for Research Protections, which maintains annual records of participation and provides oversight for the program. Additional information, including copies of SARI@PSU graduate program training plans and student participation reports, is available from the Office for Research Protections upon request.
Table 1: Entry Level Salaries for MPP/MPA Students

<table>
<thead>
<tr>
<th>Position</th>
<th>Sector</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Government Analyst</td>
<td>State/Local Gov</td>
<td>$26,000 – $45,000</td>
</tr>
<tr>
<td>Program Coordinator</td>
<td>Nonprofit</td>
<td>$30,000 – $48,000</td>
</tr>
<tr>
<td>Program Assistant/Manager</td>
<td>Nonprofit</td>
<td>$32,000 – $63,000</td>
</tr>
<tr>
<td>Policy Analyst</td>
<td>Nonprofit/Government</td>
<td>$40,000 – $68,000</td>
</tr>
<tr>
<td>Statistician</td>
<td>Nonprofit/Government</td>
<td>$46,000 – $65,000</td>
</tr>
<tr>
<td>Research Associate</td>
<td>NP/Gov/Private</td>
<td>$45,000 – $60,000</td>
</tr>
<tr>
<td>Marketing/PA Specialist</td>
<td>NP/Gov/Private</td>
<td>$66,000 – $85,000</td>
</tr>
<tr>
<td>City Manager/CAO</td>
<td>State/Local Gov</td>
<td>$101,000 – $108,000</td>
</tr>
</tbody>
</table>

Sources: http://publicservicecareers.org/career-resources/employment-salary-trend/
Table 2: The Proposed M.P.P. Courses & Curriculum

Year 1: Fall Semester

- PPOL 801: The Public Policy Process
- PPOL 802: Economic Analysis for Public Policy
- PPOL 503: Introductory Statistics for Public Policy
- PPOL 804: Public Sector Organization Theory

Year 1: Spring Semester

- PPOL 805: Bureaucracy and the Policy Process
- PPOL 506: Intermediate Statistics for Public Policy
- PPOL 807: Managing Public Organizations
- PPOL 808: Public Finance and Budgeting

Summer Term: PPOL 895 Public Policy Internship

Year 2. Fall Semester

- PPOL 809: Public Policy Analysis
- PPOL 810: Policy and Program Evaluation
  - Policy Specialization Elective 1
  - Policy Specialization Elective 2

Year 2: Spring Semester

- Policy Specialization Elective 3
- Policy Specialization Elective 4
- PPOL 811: Public Policy Project Design and Methods
- PPOL 894: M.P.P. Capstone Experience

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66 All courses, including the capstone project are 3 credits with the exception of the summer public policy internship (1 credit). All courses with PPOL designation are required for completing of the M.P.P. degree. The M.P.P. program as a whole is 49 credits: 36 credits of required core courses, 1 credit internship, and 12 credits of elective public policy specialization courses.

67 Students are required to take four elective policy specialization courses. Generally, these will be drawn from other programs on campus. However, M.P.P. faculty may also teach courses on substantive public policy issues or methods of policy analysis as PPOL 897: Special Topics in Public Policy.
## Table 3: Comparison of Core Courses of Proposed PSU MPP Degree and Other PSU Programs

<table>
<thead>
<tr>
<th>PSU MPP Proposed Core</th>
<th>PSU-Main Campus</th>
<th>PSU-Harrisburg</th>
<th>PSU-Main Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SIA¹</td>
<td>MPA²</td>
<td>MS-Health Policy &amp; Administration</td>
</tr>
<tr>
<td>PPOL 801: Public Policy Process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 802: Economic Analysis for Public Policy</td>
<td>INTAF 506</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 503: Introductory Statistics for Public Policy</td>
<td>INTAF 803</td>
<td>PADM 503</td>
<td>HP 597</td>
</tr>
<tr>
<td>PPOL 804: Public Sector Organization Theory</td>
<td>PADM 500</td>
<td>PADM 500</td>
<td>HP 520/521</td>
</tr>
<tr>
<td>PPOL 805: Bureaucracy and the Policy Process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 506: Intermediate Statistics for Public Policy</td>
<td></td>
<td>PADM 500</td>
<td>HP 528</td>
</tr>
<tr>
<td>PPOL 807: Managing Public Organizations</td>
<td>PADM 510</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 808: Public Finance and Budgeting</td>
<td>PADM 502</td>
<td>PADM 502</td>
<td>HP 510</td>
</tr>
<tr>
<td>PPOL 809: Public Policy Analysis</td>
<td>PADM 507</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 810: Policy and Program Evaluation</td>
<td></td>
<td></td>
<td>HP 561</td>
</tr>
<tr>
<td>PPOL: 811: Project Design and Methods</td>
<td>Either Capstone Paper or Internship</td>
<td>PADM 594</td>
<td>HP 590</td>
</tr>
<tr>
<td>PPOL 895: Public Policy Internship</td>
<td>Either Capstone Paper or Internship</td>
<td>PADM 595</td>
<td></td>
</tr>
</tbody>
</table>

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2. THE PSU Harrisburg MPA core curriculum also requires: PADM 505: Human Resources in the Public and Nonprofit Sector.

* No two courses are perfectly similar. The table represents my best approximation of similarities based on the descriptions available on-line.
<table>
<thead>
<tr>
<th>PSU MPP Proposed Core</th>
<th>Georgetown U. MPP¹</th>
<th>U. Washington MPA²</th>
<th>Ohio State MPP¹</th>
<th>U. Minnesota MPP¹</th>
<th>U. Michigan MPP³</th>
<th>U.C. Berkeley MPP⁵</th>
<th>GWU MPP</th>
<th>U. Kentucky MPP⁷</th>
<th>U. Pittsburg MPA⁸</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPOL 801: Public Policy Process</td>
<td>PPOL 510</td>
<td>PubPol 511</td>
<td>PUBAFRS 6000</td>
<td>PA 5012</td>
<td>PubPol 510</td>
<td>PPBAF 5001</td>
<td>PUB 6011</td>
<td>PA 651</td>
<td></td>
</tr>
<tr>
<td>PPOL 802: Economic Analysis for Public Policy</td>
<td>PPOL 506</td>
<td>PubPol 516</td>
<td>PUBAFRS 6030</td>
<td>PA 5021</td>
<td>PubPol 555/558</td>
<td>PA 5021</td>
<td>PUBAF 6007</td>
<td>PA 652</td>
<td>PIA 2025/2026</td>
</tr>
<tr>
<td>PPOL 503: Introductory Statistics for Public Policy</td>
<td>PPOL 501</td>
<td>PubPol 527</td>
<td>PUBAFRS 6070</td>
<td>PA 5031</td>
<td>PubPol 529</td>
<td>PUBAF 6002</td>
<td>Prerequisite</td>
<td>PIA 2022</td>
<td></td>
</tr>
<tr>
<td>PPOL 804: Public Sector Organization Theory</td>
<td>PPOL 805: Bureaucracy and the Policy Process</td>
<td>PubPol 528</td>
<td>PA 5033/5041</td>
<td>PA 5031</td>
<td>PubPol 529</td>
<td>PA 5031</td>
<td>PUBAF 6002</td>
<td>PA 642</td>
<td></td>
</tr>
<tr>
<td>PPOL 807: Managing Public Organizations</td>
<td>PPOL 514</td>
<td>PubPol 512</td>
<td>PUBAFRS 6050</td>
<td>PA 5011</td>
<td>PubPol 587</td>
<td>PA 5011</td>
<td>PUBAF 6005</td>
<td>PA 631</td>
<td>PIA 2104</td>
</tr>
<tr>
<td>PPOL 808: Public Finance and Budgeting</td>
<td>PPOL 508</td>
<td>PubPol 522</td>
<td>PUBAFRS 6040</td>
<td>PA 5003</td>
<td>PUBAF 6005</td>
<td>PA 631</td>
<td>PIA 2104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 809: Public Policy Analysis</td>
<td>PPOL 809</td>
<td>PubPol 513</td>
<td>PubPol 513</td>
<td>PA 5002</td>
<td>PUBAF 6005</td>
<td>PA 631</td>
<td>PIA 2104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPOL 811: Project Design and Methods</td>
<td>PPOL 526/527</td>
<td>Yes, No Number</td>
<td>PUBAFRS 7900</td>
<td>PA 8081</td>
<td>Yes, No Number</td>
<td>PP 299</td>
<td>PUBAF 6019</td>
<td>PA 681</td>
<td>PIA 2096</td>
</tr>
<tr>
<td>PPOL 895: Public Policy Internship</td>
<td>Yes, No Number</td>
<td>Recommended</td>
<td>Yes, No Number</td>
<td>Yes, No Number</td>
<td>Yes, No Number</td>
<td>Recommended</td>
<td>Yes, No Number</td>
<td>PIA 2098</td>
<td></td>
</tr>
</tbody>
</table>

1. Georgetown University’s McCourt School of Public Policy’s MPP degree also requires a second course in microeconomics (PPOL 507) and PPOL 518: Ethics, Values, and Public Policy.
2. The core curriculum of the University of Washington’s Evans School’s MPA also requires PubPol 517: Microeconomic Management Analysis.
4. UM’s Humphrey School MPP also requires the student selects one course in a substantive policy area and a third analysis class, either PA 5003: Multivariate Techniques or PA 5041: Qualitative Methods for Policy Analysis.
5. The University of Michigan’s Gerald R. Ford School also requires PubPol 500: Values, Ethics, and Public Policy.
6. U.C. Berkeley’s MPP program also requires PP 220: Law and Public Policy.
8. These requirements are for MPA’s policy research and analysis specialization. The University of Pittsburgh’s MPA also requires: PIA: Global Governance, and PIA 2024: Economics for Public Affairs as an additional economics course.

* No two courses are perfectly similar. The table represents my best approximation of similarities based on the descriptions of courses available on-line. The comparisons were selected from among the most recent top 33 ranked public policy analysis programs to include those with fixed core requirements instead of complex options that would be difficult to represent in this format.
Table 5: Proposed M.P.P. Public Policy Specializations

1. Criminal Justice Policy

Organizations in the criminal justice system, namely, police, courts, corrections, community supervision, and offender and victim services, are becoming increasingly evidence-based in their practices and administration. Furthermore, criminal justice policy is becoming increasingly evidence-based, and there is growing demand for evaluation using social science methods. As the U.S. criminal justice system has begun a trend away from mass incarceration and toward diverting offenders from prison, the need for expertise in developing and evaluating effective evidence-based corrections practices will continue to grow. The goal of the specialization would be for students to gain and demonstrate knowledge of the organizational structure, processes, and challenges of criminal justice institutions, and combine this knowledge with tools learned in other M.P.P. courses to analyze criminal justice policies and practices. The following courses already exist at University Park:

CRIM 501 Criminal Justice Organizations and Institutions
CRIM 433 Sentencing
CRIM 430 American Correctional System
CRIM 435 Policing in America
CRIM 432 Crime and the American Court System
CRIM 441 The Juvenile Justice System
CRIM 451 Race, Crime, and Justice
CRIM 453 Women and the Criminal Justice System
CRIM 467 Law and Society

2. Health Policy

Health care is said to constitute over 1/6 of the U.S. economy. Furthermore, health care is a major global political and policy concern. Growing health care costs and the complexities of state and federal government involvement in health care have made health policy development, assessment, and evaluation a field of growing importance. Students in this proposed M.P.P. specialization would develop knowledge of the U.S. and/or international health care system, its economics, and policy challenges. The goal of the specialization would be for students to demonstrate knowledge of the organization and economics of U.S. and/or global health care, and inequalities in quality and access to health care. Students would also synthesize this knowledge with research and analytical tools to analyze health policies and practices. There are many existing in-residence courses relevant to health policy. These include:

68 These examples of policy specialization tracks have already been developed in agreement with the existing programs offering the listed courses. Memoranda of Understanding with those programs are available in the appendixes.
SOC 451 Health, Disease, and Society
SOC/HPA 526 Health Disparities
HPA 528 Health Data Analysis for Research
HPA 527 Managing Health Care Operations
HPA 510 Health Services Financing and Policy
HPA 541 Poverty, Race, Ethnicity, and Child Health
HPA 545 Intro to Health Economics
SOC 532 Global Health and Mortality
HPA 528 Health Data Analysis for Research
HDFS/HPA 506 Design and Evaluation of Prevention and Health Promotion Programs Across the Life Span.

3. Labor and Employment Relations Policy

A labor and employment area of specialization in the public policy Master degree would focus on policy issues related to work, the workplace, employment, and employment relations. This would include a range of policies related to such issues as workforce development, workforce training, unemployment, income inequality, workplace discrimination, work and family, labor-management relations, workplace safety and health, occupations, and disabilities in the context of both the public and private sectors. The following courses already exist at University Park:

LER 435 Labor Relations in the Public Sector
LER 444 Workplace Safety and Health: Principles and Practices
LER 475H Labor in the Global Economy: U.S. and South African Perspectives
HRER 501 Labor and Employment Law
HRER 504 Seminar in Employment Relations
HRER 523 (WMNST 523) Seminar in Work-Life Dilemmas, Practices, and Policies
HRER 536 Diversity in the Workplace

4. Children and Family Policy

The contemporary history of public policy analysis and evaluation is largely intertwined with interventions aimed at children, youth and families. Head Start, the Women, Infant and Children (WIC) nutritional program, educational interventions, child services, and welfare reform are but a few examples illustrating the value for a policy analyst of expertise in the area of children, youth and family. This specialization builds on historic strengths across the University Park campus in developmental science, family studies, and related areas. Existing courses that could serve the specialization include (but are not limited to):

CRIM 441 The Juvenile Justice System
LER 472 Work-Life Practices and Policies
PSYCH 474 Psychological Intervention in Childhood
SOC 431 Family Disorganization: Stress Points in the Contemporary Family
SOC/HDFS 440 Family Policy
SOC 531 Family Disorganization: Stress Points in the Contemporary Family
AYFCE 550 (3) Program Development & Evaluation in Youth, Families, and Communities
HD FS 450 Developmental Child Programs and Services
HD FS 454 (E C E 454) Development and Administration of Child Service Programs
HD FS 455 Development and Administration of Human Services Programs
HD FS 521 Child Maltreatment: Theory, Research, and IM.P.A.ct
HD FS 577 Poverty, Policies, and Child Development
CMAS 465 Child Maltreatment: Prevention and Treatment

5. Public Policy Analysis

With the accelerating pace of digitization, policymakers are generating increasing demand for individuals who can conduct policy analyses using quantitative data, and can do so rapidly and with a high degree of validity. Building upon Penn State’s exceptional strong disciplinary programs in statistics, economics, political science, criminology, sociology, and others, a focus on policy analysis would provide the student with a broad, sophisticated set of tools for the analysis of policy questions in any substantive area. Penn State’s existing, overlapping strengths in this area means there is an extensive list of existing courses that would be appropriate for students focusing on this specialization, including the following.

PLSC 504 Topics in Political Methodology
PLSC 505 Time Series Analysis
PLSC 551 Big Data Approaches to the Study of Political Representation
SOC 572 Foundations in Causal Analysis in the Social Sciences
SOC 575 Statistical Methods for Nonexperimental Research
SOC 577 Techniques of Event History Modeling
SOC 578 Multilevel Regression Models
SOC 579 Spatial Demography

6. Information Technology Policy

Increasingly, networked digital information and technologies have permeated all realms of society, from personal life, to communities and civic behaviors, industry, and government. The pervasive presence of digital services has engendered many policy concerns, including the assurance of data privacy and security; verifiable provenance, ownership and access to digital content and services; standards and regulations for networked data and services; frameworks for valuing and protecting novel digital content and software; globalization; and the digital divide. Building on the diverse programs offered through Penn State’s innovative College for Information Sciences and Technology, an M.P.P. specialization can be supported in multiple areas of information technology through selections from the following list of permanent courses.
SRA 421 The Intelligence Environment
SRA 450 Cyber-Crime and Cyber-Warfare
SRA 471 Informatics, Risk, and the Post-Modern World
SRA 472 Integration of Privacy and Security
SRA 480 Crisis Informatics
IST 431 The Information Environment
IST 432 Legal and Regulatory Environment of Information Science and Technology
IST 445 Globalization Trends and World Issues
IST 452 Legal and Regulatory Environment of Privacy and Security
IST 453 Legal, Regulatory, Policy Environment of Cyber Forensics
IST 564 Crisis, Disaster and Risk Management
IST 815 Foundations of Information Security and Assurance
### Table 6: List of APPAM Institutional Members

Abt Associates, Inc.  
AcademyHealth  
American Institutes for Research  
American University (School of Public Affairs)  
Arizona State University  
Baruch College (City University of New York)  
Brandeis University (Heller School)  
Brookings Institution  
Brown University (Watson Institute)  
Carnegie Mellon University (Heinz College)  
Claremont Graduate University  
Clarivate Analytics  
Cleveland State University  
College of William and Mary  
Columbia University (School of International and Public Affairs)  
Cornell University- Institute for Public Affairs  
Cornell University-PAM  
Duke University, Sanford School of Public Policy  
George Mason University (Schar School)  
George Washington University (Trachtenberg School)  
Georgetown University (McCourt School of Public Policy)  
Georgia Institute of Technology (School of Public Policy)  
Georgia State University (Andrew Young School of Policy Studies)  
IM.P.A.Q International  
Indiana University Purdue University Indianapolis  
Indiana University School of Public and Environmental Affairs  
John Jay College of Criminal Justice  
Hopkins University (Bloomberg School of Public Health)  
La Follette School of Public Affairs - Univ. of Wisconsin - Madison  
Maastricht University  
Massachusetts Institute of Technology (Technology and Policy Program)  
Mathematica Policy Research  
MDRC  
NASPAA  
National University of Singapore - Lee Kuan Yew School of Public Policy  
Nazarbayev University Graduate School of Public Policy  
New York University (Wagner School)  
Northeastern University  
Northwestern University IPR  
Northwestern University SESP  
Optimal Solutions Group, LLC  
Pardee RAND Graduate School  
Pepperdine University (School of Public Policy)  
Princeton University (Woodrow Wilson)
Robert Wood Johnson Foundation Center at University of New Mexico
Rutgers University - Camden
Rutgers University - New Brunswick
Rutgers University - Newark
Texas A&M University (The Bush School)
The Daniel J. Evans School of Public Policy at the University of Washington
The Hamilton Project
The Maxwell School at Syracuse University
The New School
The Ohio State University
The University of Georgia
The Urban Institute
University at Albany, Rockefeller College of Public Affairs & Policy
University of Arizona
University of California - Los Angeles (Luskin)
University of California, Berkeley (Goldman School)
University of California, San Diego (School of Global Policy & Strategy)
University of California, Riverside (School of Public Policy)
University of Central Florida (School of Public Administration)
University of Chicago Harris School of Public Policy
University of Colorado Denver (School of Public Affairs)
University of Delaware (School of Public Policy & Administration)
University of Denver
University of Houston, Hobby School of Public Affairs
University of Illinois (Institute of Government & Public Affairs)
University of Kentucky (Martin School of Public Policy & Administration)
University of Maryland, Baltimore County (School of Public Policy)
University of Maryland, College Park
University of Massachusetts at Amherst (School of Public Policy)
University of Massachusetts at Boston (McCormack Graduate School of Policy and Global Studies)
University of Michigan (Ford School)
University of Minnesota, The Humphrey School
University of Missouri-Columbia (Truman School of Public Affairs)
University of North Carolina, Chapel Hill
University of North Carolina, Charlotte
University of Oklahoma
University of Oregon
University of Pennsylvania, School of Social Policy & Practice
University of Pennsylvania-Fels Institute of Government
University of Pennsylvania-Graduate School of Education
University of Pennsylvania-Wharton School
University of Pittsburgh (Graduate School of Public and International Affairs)
University of Southern California, Sol Price School of Public Policy
University of Texas at Austin (The LBJ School of Public Affairs)
University of Texas at Dallas
University of the Pacific (McGeorge School)
University of Virginia (Batten School)
Vanderbilt University’s Peabody College
Victoria University of Wellington
Virginia Commonwealth University (Wilder School)
Virginia Polytechnic Institute & State University
Volcker Alliance
W.E. Upjohn Institute for Employment Research
Westat
Table 7: U.S. News 2016 Ranking of Top 33 Public Policy Analysis Programs

1. University of California—Berkeley (Goldman)
2. Harvard University (Kennedy)
3. University of Michigan—Ann Arbor (Ford)
4. Duke University (Sanford)
5. University of Chicago (Harris)
6. Syracuse University (Maxwell)
7. Indiana University—Bloomington
8. Carnegie Mellon University (Heinz)
9. Princeton University (Wilson)
10. University of Wisconsin—Madison (La Follette)
11. University of Southern California (Price)
12. University of Texas—Austin (LBJ)
13. University of Washington (Evans)
14. George Washington University (Trachtenberg)
15. Georgetown University (McCourt)
16. Ohio State University (Glenn)
17. University of Minnesota—Twin Cities (Humphrey)
18. University of Georgia
19. New York University (Wagner)
20. University of California—Los Angeles (Luskin)
21. Florida State University (Askew)
22. Arizona State University
23. Georgia Institute of Technology
24. Georgia State University (Young)
25. Texas A&M University—College Station (Bush)
26. American University
27. University of Maryland—College Park
28. Rutgers, The State University of New Jersey—Newark
29. University of Kentucky (Martin)
30. Columbia University (SIPA)
31. Johns Hopkins University
32. University at Albany—SUNY (Rockefeller)
33. George Mason University
34. Stanford University
35. University of North Carolina—Chapel Hill
Addendum

M.P.P. – Additional Specific Requirements

The Master of Public Policy requires a minimum of 48 credits at the 400, 500, or 800 level, with at least 18 credits at the 500 or 800 level and a minimum of 6 credits at the 500 level. The culminating experience for the degree is a capstone project that involves integrating and showing mastery of the subject matter of the student’s specialization via conducting original research using prospective public policy analysis or retrospective program/policy evaluation. This project will be completed through a 3-credit public policy capstone course, and a 3-credit capstone experience.
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 Agricultural Sciences
Department or Instructional Area: Agricultural & Biological 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:

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): Proposal to adopt the International Agriculture and Development (INTAD) dual-title

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

Submitted by Graduate Program Head

Paul Heinemann
Printed name
Signature
Date: 9/17/16

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

John Ewing
Printed name
Signature
Date: 10/6/16

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

Rama Radhakrishna
Printed name
Signature
Date: 10/31/16
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On Behalf of C. Andrew Cole

Printed name

Signature

Date: 5/9/2018

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

On Behalf of M. Kathleen Heid

Printed name

Signature

Date: 5/9/2018

Noted by Dean of the Graduate School:

On Behalf of Regina Vasilatos-Younken

Printed name

Signature

Date: 5/9/2018
PROGRAM CHANGE PROPOSAL TO ADOPT A DUAL-TITLE DEGREE PROGRAM: INTERNATIONAL AGRICULTURE AND DEVELOPMENT

Department of Agricultural and Biological Engineering
College of Agricultural Sciences

CONTENTS

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JUSTIFICATION

What is Agricultural and Biological Engineering (ABE)?
Agricultural and Biological Engineering (ABE) is the profession devoted to design and development of technology – devices and systems of devices – that function to solve problems and improve performance in agricultural production and related living systems. As such, ABE has played a pivotal role in expansion of the world’s production of food, fiber, renewable fuels, and bio-based materials and products. For example, agricultural mechanization, an area of focus for ABE professionals, has been widely recognized as one of the top 10 engineering developments of the 20th century. As concerns about sustainability and ecological impact come to the fore in the new millennium, ABE continues to show leadership in driving the world’s transition from unsustainable to sustainable practices for land use and management, crop production, renewable energy systems, and bioprocessing.

What is the Relevance of INTAD to ABE?
The competencies and foci in the field of ABE have long made it an important component of successful agricultural development efforts worldwide, and continue to be desperately needed in the worldwide agricultural sector. Appropriate technology deployment, energy production, water management and
Irrigation, processing, and quality assurance are all critical needs that are best addressed with effective engineering. If agricultural development in the world is to meet the needs of the population in the coming years, smarter and more effective engineering approaches must be developed—tomorrow's problems will likely not be solved with yesterday's solutions.

Because of these opportunities and needs, the combination of the ABENG and INTAD program promises to be a powerful tool for preparing the next generation of difference-makers in the international agricultural development sector, and catalyzing meaningful and lasting improvements worldwide.

Goal of Dual-Title Program
The goal of the dual-title program in International Agriculture and Development and Agricultural and Biological Engineering is to prepare students to effectively apply engineering solutions that address agricultural development needs in a sustainable, appropriate manner while creating science-based knowledge that will inform and enable the transformation of agricultural practices in the world to a more successful, sustainable basis.

Benefits to Students in Dual-Title Program
Students enrolled in the dual-title program in ABENG and INTAD will be exposed to a synergistic combination of advanced engineering practice and international development practice and principles that will enable them to better understand the true nature of successful engineering design and the unique challenges and constraints that face engineers seeking to work in the international development community.

Benefits to Department, College, and University
This program will benefit the department by providing an attractive program combination to students wishing to pursue a career in international agricultural development. It will also provide a mechanism for drawing together faculty and students with interests in this area, allowing for more effective mutual support and pursuit of opportunities.

The college and university will benefit through the expanded reach of the INTAD program, additional enrollments in INTAD courses, and graduates with enhanced skills that will not only improve their career prospects and impact, but also enhance the university's reputation worldwide.
BULLETIN COPY – ABENG

Agricultural and Biological Engineering (ABENG)

PAUL H. HEINEMANN, Head of the Department of Agricultural and Biological Engineering
105 Agricultural Engineering Building
814-865-7792

Degrees Conferred:
Ph.D., M.S.
Dual-Title M.S. Agricultural and Biological Engineering and International Agriculture and Development
Dual-Title Ph.D. Agricultural and Biological Engineering and International Agriculture and Development
Dual-Title M.S. Agricultural and Biological Engineering and Operations Research
Dual-Title Ph.D. Agricultural and Biological Engineering and Operations Research

The Graduate Faculty

The Programs
Agricultural and Biological Engineering offers students the opportunity to gain expertise in areas of engineering for biological/agricultural systems corresponding to their professional interests. Graduate students select research projects (and supporting course work) from a wide range of interest areas that match faculty research expertise. Research projects are available in physical properties of biological materials, plant and animal production systems, food engineering, wood engineering, agricultural structures, agricultural safety, food safety, bulk solids handling and storage, agricultural systems engineering, agricultural by-product utilization, forage processing and handling systems, electronics instrumentation, online computer control systems, erosion and sedimentation control, waste management, water quality, and natural resources management and conservation.

Excellent facilities, including equipment and instrumentation, are available for research in the designated areas. Among the special facilities are field plot areas; a full-scale sedimentation basin test facility; hydraulic flumes; sedigraph; gas and ion chromatography units; atomic absorption unit; rainfall simulators; food properties lab; food equipment and processing lab; microbiological engineering lab; fermentation lab; computer vision systems; hydraulic and pneumatic test stands; fabrication shop; electronics instrumentation; microcomputer laboratory; controlled environment chambers; composite characterization labs; wood structures lab; and wood mechanics lab. Collaborative arrangements allow access to a large variety of other resources: Penn State Institutes of the Environment and Energy; Huck Institutes of the Life Sciences; Materials Research Institute; Materials Characterization Laboratory; Nanofabrication Facility; Penn State Institute for CyberScience; PA Housing Research Center; Center for Food Manufacturing; USDA Pasture Systems and Watershed Management Research Lab; a mushroom research and demonstration facility and a 1,500-acre agricultural research center for cooperative work with agronomic and horticultural production systems as well as animal production systems.
Admission Requirements
Requirements listed here are in addition to general Graduate School requirements stated in the section of the Graduate Bulletin. Applicants apply for admission to the program via the Graduate School application for admission.

An undergraduate major in engineering is normally a prerequisite to work in the major. Students without an undergraduate engineering degree will be considered for admission on a provisional basis pending the completion of a number of additional credits to be specified on an individual basis. These additional credits will not count towards the program degree requirements.

All students must submit scores from the General Aptitude Test of the Graduate Record Examinations (GRE) prior to admission (except those who have an ABET-accredited engineering degree). There is no minimum GRE score required for admission, as this is only one of several qualifications considered in the admission review process. However, financial assistance is often influenced by the degree of success exhibited by GRE scores and grade-point averages (GPAs) from previous engineering programs.

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.

All applicants must provide the department with official transcripts from all post-secondary institutions attended, as well as a statement of purpose written by the applicant, and at least three letters of recommendation. Admission into the Agricultural and Biological Engineering Graduate Program is based upon a thorough review of all applicant qualifications, and the best-qualified applicants will be accepted up to the number of students for which department resources are available.

Entrance to Master of Science Program
Completion of an undergraduate degree in agricultural or biological engineering or in another related engineering discipline is required for direct admission to the Agricultural and Biological Engineering Graduate Program. Students need at least a 3.0 (4.0 base) junior/senior grade-point average to be considered for admission.

A student with an undergraduate degree in a non-engineering field can be admitted to the M.S. program on a provisional basis, pending the completion of a number of additional credits to be specified on an individual basis. These additional credits will not count towards the M.S. degree requirements. The provision status continues until completion of the engineering undergraduate requirements in mathematics, physics, engineering sciences (thermodynamics, statics, dynamics, strength of materials, fluid-mechanics and electrical circuitry), and 6 credits of 400-level Biological Engineering courses. Upon completion of these preparatory courses with a minimum grade-point average of 3.0, the student will be admitted to the graduate program.
Entrance to Doctor of Philosophy Program

The program requirement for acceptance to graduate study toward a Ph.D. degree in Agricultural and Biological Engineering is an M.S. degree with research thesis in an engineering or science discipline with a B.S. degree from an engineering program. Outstanding students interested in direct admission from a B.S. engineering program to the Ph.D. Program should contact the Graduate Program Coordinator. Direct admission will be based on critical evaluation of the student’s potential to conduct publishable research, academic record, results of standardized tests, statement of purpose, and reference letters. Students who apply directly to the Ph.D. program but are not qualified will be considered for admission into the M.S. program.

A student with an undergraduate degree in a non-engineering field can be admitted to the Ph.D. program on a provisional basis pending the completion of a number of additional credits to be specified on an individual basis. These additional credits will not count towards the Ph.D. degree requirements.

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.S. degree must complete a minimum of 30 credits at the 400, 500, 600, or 800 level, with at least 6 credits in thesis research (600 or 610). All candidates for the M.S. must write a thesis. The thesis must be accepted by the advisers and/or committee members, the head of the graduate program, and the Graduate School, and the students must pass a thesis defense.

Doctoral Degree Requirements

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

Official entrance into a Ph.D. program occurs upon successful completion of the Ph.D. Candidacy Exam. Ph.D. degree requirements include successful completion of the following: approved graduate course work, Ph.D. English competency requirements, a comprehensive examination, and final oral examination (the dissertation defense). To earn the Ph.D. degree, doctoral candidates must write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

No specified number of courses completed or credits earned are required by the department. However, the candidate must complete at least 9 credits of Agricultural and Biological Engineering (ABE) course work beyond the baccalaureate degree. Six credits must be 500-level ABE courses (excluding ABE 500, 590, 594, 595, 596); the remaining 3 credits must be in any BE 460 course or higher. Unless previously taken, all Ph.D. students must complete ABE 500. The student's doctoral committee will recommend the minimum requirements in such supporting areas as mathematics, engineering, agricultural/biological sciences, and physical sciences. The candidate is expected to develop a program of study and submit it to the appointed doctoral committee for consideration and approval. All Ph.D. students are required to participate in resident education or extension teaching activities for the equivalent of at least one semester.
during their graduate program. A typical plan of study consists of about 90 credits beyond the baccalaureate degree with about 30 of the total credits for research. All requirements for a Ph.D. degree, whether satisfied on this campus or elsewhere, must be completed within eight years after passing the candidacy examination.

PH.D. LANGUAGE AND COMMUNICATION REQUIREMENT--The purpose of the communication requirement is to strengthen the student's professional communication skills. The candidate must take a minimum of two courses (a minimum total of 5 credits) and receive a grade of B or better in each course taken. Course selections must be approved by the academic adviser prior to registration. Courses used to satisfy this requirement must include the substantial practice of writing and/or speaking.

**Dual-Title Graduate Degree in Agricultural and Biological Engineering (ABENG) and International Agriculture and Development (INTAD)**

Graduate students with research and educational interests in international education may apply to the dual-title program in Agricultural and Biological Engineering and International Agriculture and Development. The goal of the dual-title program in ABENG and INTAD is to enable graduate students from ABE to acquire the knowledge and skills of their primary area of specialization in ABE, while at the same time gaining the perspective and methods needed for work in the international agriculture. Graduate study in this program seeks to prepare students to assume leadership roles in science, engineering, outreach, and project management anywhere in the world. Students acquire a broad perspective on how to apply their research findings in the context of the broader international community. Thus, the dual-title will allow students to master their field of specialization from an international perspective so that they can effectively engage in agricultural development activities within various countries and regions.

**Admission Requirements**

Students must apply and be admitted to the graduate program in ABENG 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 INTAD dual-title program. Refer to the Admission Requirements section of the INTAD Bulletin page. Doctoral students must be admitted into the dual-title degree program in INTAD prior to obtaining candidacy in their primary graduate program.

**Degree Requirements for the Dual-Title M.S. in ABENG and INTAD**

To qualify for the dual-title degree, students must satisfy the degree requirements for the M.S. degree, listed above. In addition, students must complete the degree requirements for the dual-title M.S. in INTAD, listed on the INTAD Bulletin page. Up to 6 credits of INTAD approved courses can be applied to fulfilling ABENG program requirements. Final course selection must be approved by the student’s advisory committee.
Degree Requirements for the Dual-Title Ph.D. in ABENG and INTAD

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. degree, listed above. In addition, students must complete the degree requirements for the dual-title Ph.D. in INTAD, listed on the INTAD Bulletin page. Some courses may satisfy both ABENG program requirements and those of the INTAD program. Up to 6 credits of INTAD approved courses can be applied to fulfilling ABENG program 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 ABENG and must include at least one Graduate Faculty member from the INTAD program. Faculty members who hold appointments in both programs’ Graduate Faculty may service in a combined role. There will be a single candidacy examination, containing elements of both ABENG and INTAD. 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 on semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for doctoral committees, the doctoral committee of an ABENG and INTAD dual-title Ph.D. student must include at least one member of the INTAD Graduate Faculty. Faculty members who hold appointments in both programs’ Graduate Faculty may service in a combined role. If the chair of the doctoral committee is not also a member of the Graduate Faculty in INTAD, the member of the committee representing INTAD must be appointed as co-chair. The INTAD 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 ABENG and INTAD. 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.

Dual-Title Graduate Degree in Agricultural and Biological Engineering (ABENG) and Operations Research (OR)

Graduate students with interests in operations research may apply to the dual-title program in Agricultural and Biological Engineering and Operations Research. The goal of the dual-title program in ABENG and Operations Research is to enable graduate students from ABENG to acquire the knowledge and skills of their primary area of specialization in ABENG, while at the same time gaining the perspective and methods needed for work systems analysis and modeling. Graduate study in this program seeks to prepare students to utilize the tools, techniques, and methodology of operations research, while maintaining a close association with areas of application. Operations research is the analysis—usually involving
mathematical treatment--of a process, problem, or operation to determine its purpose and effectiveness and to gain maximum efficiency.

**Admission Requirements**

Students must apply and be admitted to the graduate program in ABENG 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 OR dual-title program. Refer to the Admission Requirements section of the [OR Bulletin page](#). Doctoral students must be admitted into the dual-title degree program in OR prior to obtaining candidacy in their primary graduate program.

**Degree Requirements for the Dual-Title M.S. in ABENG and OR**

To qualify for the dual-title degree, students must satisfy the degree requirements for the M.S. degree, listed above. In addition, students must complete the degree requirements for the dual-title M.S. in OR, listed on the [OR Bulletin page](#). Up to 6 credits of OR approved courses can be applied to fulfilling ABENG program requirements. Final course selection must be approved by the student’s advisory committee.

**Degree Requirements for the Dual-Title Ph.D. in ABENG and OR**

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. degree, listed above. In addition, students must complete the degree requirements for the dual-title Ph.D. in OR, listed on the [OR Bulletin page](#). Some courses may satisfy both ABENG program requirements and those of the OR program. Up to 6 credits of OR approved courses can be applied to fulfilling ABENG program 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 ABENG and must include at least one Graduate Faculty member from the OR program. Faculty members who hold appointments in both programs’ Graduate Faculty may service in a combined role. There will be a single candidacy examination, containing elements of both ABENG and OR. 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 on semester beyond the normal period allowable.
In addition to the general Graduate Council requirements for doctoral committees, the doctoral committee of an ABENG and OR dual-title Ph.D. student must include at least one member of the OR Graduate Faculty. Faculty members who hold appointments in both programs’ Graduate Faculty may service in a combined role. If the chair of the doctoral committee is not also a member of the Graduate Faculty in OR, the member of the committee representing OR must be appointed as co-chair. The OR 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 ABENG and OR. 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.

Student Aid
Graduate assistantships 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.
## Degree Requirements with Comparison Table

### Comparison of ABENG Master of Science Program to INTAD Master’s Program

<table>
<thead>
<tr>
<th></th>
<th>Master’s Degree in Agricultural and Biological Engineering</th>
<th>Master’s Dual-Title in Agricultural and Biological Engineering plus International Agriculture and Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advisory Committee</strong></td>
<td>At least three faculty, all who are members of the Graduate Faculty. One member must be from outside the department. If a minor is selected, one member must be from the minor department</td>
<td>Adviser or co-adviser must be on INTAD faculty</td>
</tr>
<tr>
<td><strong>Course Requirements</strong></td>
<td>ABE 500 (3 cr)</td>
<td>AEE 450 (3 cr)</td>
</tr>
<tr>
<td></td>
<td>ABE 5XX or higher (including 8XX) (3 cr)</td>
<td>CEDEV 505 (3 cr)</td>
</tr>
<tr>
<td></td>
<td>Agricultural/Biological Sciences (3 cr)</td>
<td>INTAD 820 (3 cr)</td>
</tr>
<tr>
<td></td>
<td>Statistics or Mathematical Analysis (3 cr)</td>
<td>Course/internship/independent study with international development content (3 cr)</td>
</tr>
<tr>
<td></td>
<td>Additional 4XX or higher (including 8XX) (12 cr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Up to 6 credits of INTAD approved courses can be applied to fulfilling ABENG program requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ABE 600 Thesis Research (6 cr)</td>
<td></td>
</tr>
<tr>
<td><strong>Final Oral Examination</strong></td>
<td>Each MS degree student must complete a final oral examination consisting primarily of defense of the thesis research activity</td>
<td>The student’s research topic must reflect both the primary degree (ABENG) and the INTAD dual-title program</td>
</tr>
</tbody>
</table>

### Comparison of ABENG Ph.D. Program to INTAD Ph.D. Program

<table>
<thead>
<tr>
<th></th>
<th>Ph.D. Degree in Agricultural and Biological Engineering</th>
<th>Ph.D. Dual-Title in Agricultural and Biological Engineering plus International Agriculture and Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advisory Committee</strong></td>
<td>At least four faculty, all who are members of the Graduate Faculty. The chair and at least one other member must be from ABENG. At least one member must be from outside the</td>
<td>Adviser or co-adviser must be on INTAD faculty</td>
</tr>
</tbody>
</table>
department. At least two members must have
dothal degrees in engineering or be licensed
professional engineers. If a minor is selected,
one member must be from the minor
department. The committee is only appointed
after the candidacy examination has been
passed.

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Students must meet the department’s M.S. degree requirements, plus:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>ABE 500 (3 cr)</td>
</tr>
<tr>
<td></td>
<td>ABE 5XX or higher (including 8XX) (6 cr)</td>
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<tr>
<td></td>
<td>AEE 450 or 530 or HI ED 546 (3 cr, B grade minimum)</td>
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<tr>
<td></td>
<td>Communications (3 cr, B grade minimum)</td>
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<tr>
<td></td>
<td>Additional coursework as approved by advisory committee</td>
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<td></td>
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<tr>
<td>Teaching Requirement</td>
<td>Participate in resident education or extension teaching activities for the equivalent of at least one semester</td>
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<td></td>
<td></td>
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<tr>
<td>Candidacy Examination</td>
<td>The exam will consist of presenting and defending a Ph.D. research proposal.</td>
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<tr>
<td>English Competency Assessment</td>
<td>Ability to read, write, and speak English will be assessed during the candidacy examination.</td>
</tr>
<tr>
<td></td>
<td>Candidates must be fluent in reading, writing, and speaking English</td>
</tr>
<tr>
<td>Residency Requirement</td>
<td>Student must spend at least 2 semesters during a 12 month period as a registered full time student engaged in academic work at the University Park campus.</td>
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<tr>
<td>Comprehensive Examination</td>
<td>Written and oral exam of a nature determined by the advisory committee.</td>
</tr>
<tr>
<td></td>
<td>International agriculture must be a key topic in the comprehensive exam</td>
</tr>
<tr>
<td>Final Oral Examination</td>
<td>Each Ph.D. degree student must complete a final oral examination consisting primarily of defense of the thesis research activity</td>
</tr>
<tr>
<td></td>
<td>The student’s research topic must reflect both the primary degree (ABENG) and the INTAD dual-title program</td>
</tr>
</tbody>
</table>
**CONSULTATION**

Consultation was requested of the INTAD program, all academic departments in the College of Engineering, and all academic departments in the College of Agricultural Sciences. Responses are pasted below.

<table>
<thead>
<tr>
<th>Units Consulted</th>
<th>Feedback Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTAD Program</td>
<td></td>
</tr>
<tr>
<td>Department of Aerospace Engineering</td>
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<tr>
<td>Department of Architectural Engineering</td>
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<tr>
<td>Department of Biomedical Engineering</td>
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<tr>
<td>Department of Chemical Engineering</td>
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<tr>
<td>Department of Civil and Environmental Engineering</td>
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<tr>
<td>Department of Electrical Engineering</td>
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<tr>
<td>Department of Energy and Mineral Engineering</td>
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<tr>
<td>Department of Engineering Science and Mechanics</td>
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<tr>
<td>Department of Geography</td>
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<tr>
<td>Department of Geosciences</td>
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<tr>
<td>Department of Industrial and Manufacturing Engineering</td>
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<tr>
<td>Department of Materials Science and Engineering</td>
<td></td>
</tr>
<tr>
<td>Department of Mechanical and Nuclear Engineering</td>
<td></td>
</tr>
<tr>
<td>Department of Agricultural Economics, Sociology, and Education</td>
<td></td>
</tr>
<tr>
<td>Department of Animal Science</td>
<td></td>
</tr>
<tr>
<td>Department of Ecosystem Science and Management</td>
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<tr>
<td>Department of Entomology</td>
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<tr>
<td>Department of Food Science</td>
<td></td>
</tr>
<tr>
<td>Department of Plant Pathology and Environmental Microbiology</td>
<td></td>
</tr>
<tr>
<td>Department of Plant Science</td>
<td></td>
</tr>
<tr>
<td>Department of Veterinary and Biomedical Sciences</td>
<td></td>
</tr>
</tbody>
</table>
To The Graduate Council Joint Curricular Committee:

This letter is to indicate support for the application from the Agricultural & Biological Engineering program to participate in the International Agriculture and Development (INTAD) dual-title graduate program.

Agricultural & Biological Engineering joins the seven graduate programs that have previously adopted the INTAD dual-title: Rural Sociology, Agricultural, Environmental and Regional Economics, Entomology, Agricultural and Extension Education, Soils, Plant Pathology and Food Science.

The Agricultural & Biological Engineering program has long been committed to international study and research and INTAD expands on this, particularly as the issue of food security has emerged as a defining issue in international development. Graduates from Agricultural & Biological Engineering will be better equipped with the contextual knowledge and skill set that will help them translate their skills in a variety of international settings around the world.

Thank you for your consideration of this proposal.

Sincerely,

Leif Jensen

Edwin Rajotte

International Agriculture and Development (INTAD) Co-Chairs
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 Office of the Dean of the Graduate School, 211 Kern Building, University Park. 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 about 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: Liberal Arts/College of Medicine
Department or Instructional Area: Anthropology

New Graduate Program, Option, or Minor: Add
Designation of new graduate program: Anth M.D./Ph.D.
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: ____________________________
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

Douglas J. Kennett
Printed name ____________________________
Signature ____________________________ Date: ____________________________

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

Michael Putman
Printed name ____________________________
Signature ____________________________ Date: 1/30/2018

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

D. Scott Bennett
Printed name ____________________________
Signature ____________________________ Date: 2/1/2018
<table>
<thead>
<tr>
<th>Role and Name</th>
<th>Printed name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Behalf of C. Andrew Cole</td>
<td>Valérie Heuitt</td>
<td></td>
<td>5/9/2018</td>
</tr>
<tr>
<td>On Behalf of M. Kathleen Heid</td>
<td>Valérie Heuitt</td>
<td></td>
<td>5/9/2018</td>
</tr>
<tr>
<td>Noted by Dean of the Graduate School:</td>
<td></td>
<td></td>
<td>5/9/2018</td>
</tr>
<tr>
<td>On Behalf of Regina Vasilatos-Younken</td>
<td>Valérie Heuitt</td>
<td></td>
<td>5/9/2018</td>
</tr>
</tbody>
</table>
Program Changes for the
Anthropology Graduate Program

January 23, 2018

Respectfully submitted by

Douglas J. Kennett
Anthropology Department Head

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NEW PROGRAMS, OPTIONS*, AND MINORS**

A. Program Objectives.

The importance of physician-scientists to the future of basic and translational biomedical research has been stressed by the U.S. National Institutes of Health (NIH) for many years. Penn State has been committed to the doctoral level training of physician-scientists since 1988 when the M.D./Ph.D. program was instituted by the College of Medicine (CoM). Since then, the M.D./Ph.D. Medical Scientist Training Program (MSTP) has grown to represent five joint degree programs involving units in the Eberly College of Science and the College of Engineering Science. The objective of the M.D./Ph.D. is to establish a nationally recognized training program that combines the medical training at Hershey with the strength in research throughout Penn State, including at University Park. This proposal would broaden the base of collaboration and opportunities for student training between the CoM at Hershey and University Park (UP) in an entirely new direction through the development of a M.D./Ph.D. with one of the leading departments in the nation for graduate training in the social sciences, the Department of Anthropology (ANTH) in the College of the Liberal Arts on the UP campus.

The objective of the ANTH M.D./Ph.D. is to train physician-scientists in areas of medicine that require in-depth knowledge of the health consequences of the processes of human evolution. This includes detailed understanding of the interdependence of biological and cultural factors in human evolution, and insight into how the physical, cultural and social environments in which people live affect their life course and health. This approach goes beyond an understanding of the well-known “scars of evolution,” and seeks to illuminate how early life experiences and the physical, cultural, and social environments in which people live affect their health and well-being throughout the life course. This approach is increasingly being taken in programs and departments of “evolutionary medicine” in progressive medical schools around the world. Perhaps more than any other discipline, anthropology is uniquely suited to shed light on how the human genotype ultimately manifests itself into the complex and ever-changing human phenotype. Faculty at both the CoM and in ANTH are highly supportive of and enthusiastic about the potential that the ANTH M.D./Ph.D. holds for the future of medical education at Penn State in the next 5-20 years.

B. New courses to be established as a part of the new offering.

None.

C. Program Statement

A side-by-side comparison of the requirements for students in the ANTH Ph.D. and the proposed M.D./Ph.D. with ANTH is presented in Table 1 at the end of this proposal.

Admissions

Students interested in simultaneously pursuing an M.D. and Ph.D. degree must apply to the College of Medicine M.D. program using the national American Medical College Application
Service (AMCAS) application system and indicate their intent to pursue the M.D./Ph.D.. The College of Medicine M.D./Ph.D. Admissions Committee, which includes experienced graduate faculty members, reviews applications and evaluates candidates for acceptance into both the M.D. and Ph.D. program. A representative from ANTH will be part of the Admissions Committee. Applicants invited to interview for the M.D./Ph.D. must complete the Graduate School application and will be provided with a fee waiver. Applicants to the M.D./Ph.D. program are not required to complete the program-specific sections of the Graduate School application. Once admissions decisions are made, the M.D./Ph.D. program administrator will email the relevant graduate program chairs and program administrative assistants with this information; this also ensures programs are informed about all decisions and Graduate Enrollment Services will be notified. Students accepted into the M.D./Ph.D. will be approved for the ANTH program as long as they meet the standards of admission for the ANTH graduate program and are identified as potential mentees by ANTH graduate faculty.

Medical School Years 1 and 2 (MS1, MS2)

During the first two years of medical school, the student conducts at least three research rotations in addition to the standard medical school curriculum. A Pass grade must be earned for all required courses (medical school courses are graded Pass/Fail).

Graduate Program

After successful completion of the first two years of medical school and identification of a research mentor at University Park, the M.D./Ph.D. candidate will begin the dedicated coursework and preparation for dissertation research in the ANTH Graduate Program. All first-year Ph.D. students are required to take the three core theory seminars (ANTH 560, ANTH 571, and ANTH 588). The core method and theory courses will serve as the basis for the Ph.D. candidacy exam, which will take place at the end of the first year.

M.D./Ph.D. students pursuing the ANTH Ph.D. will be required to take Step 1 of the United States Medical Licensing Examination (USMLE) during the summer after the second year of medical school. The Step 1 exam rigorously assesses the student’s understanding of the biological foundations underlying our understanding of health and disease, including essential background gained during coursework in biochemistry, physiology, pharmacology and related fields. This knowledge is a necessary foundation for the intellectual development of the M.D./Ph.D. student as a physician-scientist. Passing Step 1 of the USMLE is required for progress in medical school, and provides evidence that the student has mastered the kind of scientific material necessary for progressing with the M.D./Ph.D.

ANTH Candidacy Examination

The successful ANTH M.D./Ph.D. candidate must pass the ANTH candidacy exam given at the end of the first year of graduate study at University Park (UP). This examination will focus on the content of aforementioned required core method and theory courses.

ANTH Program-Specific Requirements
The doctoral committee of an M.D./Ph.D. student in ANTH will be formed upon successful passing of the ANTH candidacy examination and commencement of work under a primary mentor, no later than the end of the first semester of the second year of graduate study at UP. The doctoral committee must include a minimum of four faculty members, i.e., the chair and at least three additional members, all of whom must be members of the Graduate Faculty. The committee must include at least two members of the ANTH graduate faculty and one member of the M.D./Ph.D. steering committee. One member of the doctoral committee must represent a field outside the candidate's major field of study in order to provide a broader range of disciplinary perspectives and expertise. This person is the "outside field member." Additionally, one member of the committee must be an "outside unit member:" a member of the graduate faculty outside the adviser's administrative home (for a tenure-line faculty member this is the department that serves as their tenure home). The same person can be the outside field member and outside unit member.

In the first semester of the second year at UP, all students in the ANTH Ph.D. program who have advanced to candidacy are required to take ANTH 509, the research methods seminar. ANTH 508, Anthropological Data Analysis and Visualization, is also required for all ANTH Ph.D. students and may be taken at any point in the first two years. Students without suitable preparation in statistics may also be required to take a course at the 400 or 500 level at the advisor's discretion. At any point during the first two years, M.D./Ph.D. students may be required to take up to six additional credits of advanced seminars, as directed by their advisor. The M.D./Ph.D. students pursuing the ANTH Ph.D. are also required to enroll in a one-unit literature review seminar (ANTH 541) for one credit each semester during the first four semesters of study. All entering graduate students are expected to complete online training in Scholarship and Research Integrity (SARI), also referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence. In addition to taking the required core courses and the literature review course, six credits of elective courses are selected in consultation with the student’s dissertation adviser and doctoral committee.

Comprehensive Examination

The comprehensive examination for ANTH M.D./Ph.D. students will follow the same guidelines as for Ph.D. students in ANTH, except that the comprehensive examination must be held before the end of the second academic year at UP. The M.D./Ph.D. student must write a dissertation proposal in preparation for the comprehensive exam, and a final version of the dissertation proposal must be circulated by the student to all committee members at least four weeks in advance of the comprehensive exam. The comprehensive examination for M.D./Ph.D. students will be an oral examination, scheduled with the Graduate School at least two weeks ahead of time, which may be open to the public. The examination will consist of student presentation of their dissertation proposal, followed by questions and discussion. The student, the chair of the doctoral committee (or one of the co-chairs), the dissertation adviser, and additional members of the committee to total a minimum of three committee members must be physically present at the exam, which is given and evaluated by the entire doctoral committee. A favorable vote of at least two-thirds of the members of the committee is required for passing. In case of failure, it is the responsibility of the doctoral committee to determine whether the candidate may take another examination. The results are reported to the Office of Graduate Enrollment Services and are entered on the candidate's official record.
**Doctoral Dissertation**

The dissertation requirements for ANTH Ph.D. and ANTH M.D./Ph.D. students are the same: All Ph.D. candidates must conduct original research and prepare a dissertation that makes a significant contribution of new knowledge, is presented in a scholarly manner, and demonstrates an ability on the part of the candidate to do independent research of high quality. The contents and conclusions of the dissertation must be defended at the time of the final oral examination.

Students must present their dissertation in accordance with Graduate Council and Graduate School guidelines as described in the Thesis and Dissertation Guide.

**Final Doctoral Examination**

This requirement is the same as that for ANTH Ph.D. candidates:

The final examination of the doctoral candidate is an oral examination administered and evaluated by the entire doctoral committee. It consists of an oral presentation of the dissertation by the candidate and a period of questions and responses. These will relate in large part to the dissertation, but may cover the candidate's entire program of study, because a major purpose of the examination is also to assess the general scholarly attainments of the candidate. The portion of the examination in which the dissertation is presented is open to the University community and the public; therefore, it is expected that the examination will take place at University Park or the Hershey CoM campus.

Information regarding Graduate Council requirements for the Ph.D., including the establishment of a doctoral committee; candidacy, comprehensive, and final oral examinations; and submission of a dissertation of original research in the field can be found in the Graduate Degree Programs Bulletin.

**Additional Requirements for ANTH students including M.D./Ph.D. students:**

All ANTH graduate students must maintain a cumulative grade-point average of \( \geq 3.0 \) to remain in good academic standing. Furthermore, the Ph.D. student must have a 3.0 average to take the doctoral candidacy, the comprehensive, and the final oral examinations. One or more failing grades (F) or a cumulative grade-point average below 3.0 will be considered evidence of unsatisfactory scholarship and may be grounds for dismissal from the program.

**M.D./Ph.D. Program Requirements**

M.D./Ph.D. students must have submitted a first-authored manuscript before defending their dissertation. Before returning to medical school the doctoral dissertation must be accepted by the Graduate School.

The M.D./Ph.D. Program requires that students have one first-authored, peer-reviewed paper published based on their research accepted prior to completing medical school, and preferably accepted for publication prior to returning to the third year of medical school. The paper does
not need to be accepted or published to defend the doctoral dissertation nor to submit the final dissertation nor (assuming all other Ph.D. requirements have been met) to receive their Ph.D..

The rationale for the expectation of joint degree students to have a published first author paper upon completion of the M.D./Ph.D. is based on current national standards for M.D./Ph.D. programs. One of the current expectations of NIH review panels is that all students in M.D./Ph.D. programs will have at least one first-author publication by the time they graduate. Publication requirements in M.D./Ph.D. programs are common and have become the *de facto* national standard. The CoM M.D./Ph.D. program is and intends to become even more strongly nationally competitive. Offering the option of a Ph.D. in ANTH is an important part of that goal as it provides opportunities for our M.D./Ph.D. students to take advantage of the research faculty members at University Park.

M.D./Ph.D. training faculty members are carefully selected to be productive scientists with strong publication records. While there can be no guarantees in research, M.D./Ph.D. student dissertation projects are carefully chosen to have a very high likelihood of publication. Each M.D./Ph.D. student’s dissertation committee includes a member of the M.D./Ph.D. Steering Committee who is attentive to the student’s progress both toward degree and publication.

However, the M.D./Ph.D. recognizes that publication can sometimes be out of the control of the student. Thus, at the discretion of the CoM Vice Dean for Research and Graduate Studies, in consultation with the ANTH Director of Graduate Studies, the requirement for a first-authored publication prior to completing medical school may be waived. Examples of conditions that might warrant exemptions include: (a) prolonged illness, (b) mentor’s relocation, (c) mentor’s reluctance to submit the student’s work for publication, (d) the student’s project is published by another research group, or (e) delays or challenges in the publication review process beyond the control of the student or dissertation advisor.

*Conferral of the Ph.D. without the M.D.*

If a student decides not to return to medical school, or for some other reason is not able to complete the last two years of medical school, but they have successfully completed their Ph.D. dissertation and oral defense and met all other degree requirements of ANTH, they will still be able to complete the Ph.D.. The latter will be conferred after the student notifies the program that she/he wishes to withdraw from the M.D. program and completes all requirements for conferral of the graduate degree.

*Dual counting of Courses*

The Graduate School’s policy on Joint Degree programs expects “that there will be some reciprocity on the part of both programs involved in the Joint offering....” Because the requirements for the ANTH Ph.D. degree have been recently streamlined, and because many previously required courses have been eliminated from the curriculum, it is expected that ANTH M.D./Ph.D. will take all of the core courses for the ANTH Ph.D. (except as noted in Table 1 on page 9), as well as electives chosen by the ANTH M.D./Ph.D. student in consultation with their primary mentor.
Because students in the ANTH M.D./Ph.D. are being trained to combine research and medicine, most likely in medical schools, the ANTH requirement for exposure to undergraduate teaching is waived. ANTH M.D./Ph.D. candidates will not be required to be teaching assistants.

The CoM will accept eight credits of ANTH 600. Thesis Research/Ph.D. Dissertation conducted over the four years of the graduate portion of the training program in lieu of two months of elective rotations (MED 797). In addition, the CoM requires all M.D. students to complete a Medical Student Research project; this requirement is waived for all M.D./Ph.D. students.

D. Admission requirements.

In addition to the basic college-level premedical school requirements for the Penn State CoM, (one each year of biology, chemistry, physics, math, and organic chemistry), the M.D./Ph.D. has the following requirements:

- **Academic Achievement:** Applicants to the program generally have very strong grades and MCAT scores. In recent years, successful applicants have an average GPA of 3.75 and MCAT scores of 33-34. Applicants are not required to take the GREs.
- **Research Experience:** We are especially interested in students with a strong and sustained background in research. Students who have spent 1-2 years after graduation conducting research are strongly encouraged to apply. Alternatively in-depth research experience as an undergraduate can suffice.
- **Recommendations:** We are especially interested in receiving letters of recommendation from faculty with whom you conducted research and who can comment on your passion and potential for research.
- **Goals:** Applicants must be able to clearly articulate the reasons for pursuing the joint degree.
- **International Students:** All qualified students are eligible to apply regardless of citizenship.

E. Program Justification.

All medical schools at research-intensive universities offer an M.D./Ph.D. Joint Degree program, as Penn State has since 1988. This proposal extends the M.D./Ph.D. to include the top-ranked Anthropology Department in the nation, at Penn State University Park. Because of the many scholarly and practical connections between faculty in ANTH and those in the Life Sciences at Penn State UP, a joint Ph.D. degree program with ANTH will make it possible for M.D./Ph.D. students to create bespoke dissertation research lab environments for themselves at University Park that combine theoretical and methodological approaches from the social and life sciences. Because the ANTH M.D./Ph.D. students will take core classes and literature review seminars together with ANTH Ph.D. students, the two groups will form a mutually reinforcing cohort, and students in both programs will benefit from the breadth of research that members of the graduate student body as a whole are pursuing. The breadth of research represented by the ANTH M.D./Ph.D. faculty combined with the flexibility inherent in the
ANTH Ph.D. program will be a major attraction to potential ANTH M.D./Ph.D. students and, in due course, is expected to result in increased interest from highly qualified applicants.

The existing M.D./Ph.D. program is regularly reviewed by an external advisory board (EAB) composed of directors of highly successful M.D./Ph.D. programs at other institutions. They have been guiding the efforts of the CoM to develop a program capable of successfully competing for the highly competitive MSTP awards from NIH. Maintaining access and connections with labs at University Park is an important part of the strategy for being competitive.

F. Accreditation:

There is no specific accrediting body for M.D./Ph.D. joint degree programs. The Liaison Committee on Medical Education (LCME) accredits M.D. programs (evaluation of M.D./Ph.D. programs are reviewed as part of that accreditation if they exist). The CoM M.D. program was reviewed by the LCME in 2010 and was fully accredited for 7 years (the maximum allowed) with recognition of the many strengths of the program. The recent securing of MSTP funding from NIH is an independent mark of high quality.
Table 1. Differences in requirements for the Ph.D. for students enrolled in the ANTH Ph.D. and the ANTH M.D./Ph.D.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>ANTH Ph.D.</th>
<th>ANTH M.D./Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance requirement</td>
<td>GRE required</td>
<td>GRE waived</td>
</tr>
<tr>
<td>Total credits required</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Core requirement credits</td>
<td>27</td>
<td>17</td>
</tr>
<tr>
<td>Core requirement</td>
<td>ANTH 560-Ecology Evolution and Human Behavior (3 credits), ANTH 571-Principles of Human Evolutionary Biology (3 credits), ANTH 588-Method and Theory in Archaeology (3 credits), ANTH 572-Advances in Anthropological Methods (3 credits) and ANTH 573-Anthropological Research Practicum (3 credits)</td>
<td>ANTH 560-Ecology Evolution and Human Behavior (3 credits), ANTH 571-Principles of Human Evolutionary Biology (3 credits), ANTH 588-Method and Theory in Archaeology (3 credits)</td>
</tr>
<tr>
<td>Core requirement</td>
<td>ANTH 509 Research Design in Anthropological Fieldwork (3 credits)</td>
<td>ANTH 509 Research Design in Anthropological Fieldwork (3 credits)</td>
</tr>
<tr>
<td>Core requirement</td>
<td>ANTH 508 Anthropological Data Analysis and Visualization (3 credits)</td>
<td>ANTH 508 Anthropological Data Analysis and Visualization (3 credits)</td>
</tr>
<tr>
<td>Communication and foreign language requirement</td>
<td>Flexible (as described in ANTH graduate program documentation)</td>
<td>Waived</td>
</tr>
<tr>
<td>Literature review course (ANTH 541)</td>
<td>Required for six semesters (1 credit each)</td>
<td>Required for two semesters (1 credit each)</td>
</tr>
<tr>
<td>Comprehensive examination</td>
<td>Flexible format, no later than the end of the third academic year</td>
<td>Oral examination, no later than the end of the second academic year</td>
</tr>
<tr>
<td>Research credits</td>
<td>ANTH 600 (6+)</td>
<td>ANTH 600 (8)</td>
</tr>
</tbody>
</table>

Note: Students without suitable preparation in statistics may also be required to take a course at the 400 or 500 level at the advisor's discretion. At any point during the first three years (the first two years for ANTH M.D./Ph.D.), students may be required to take up to six additional credits of advanced seminars, as directed by their adviser.
Anthropology (ANTH)

Program Home Page

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Degrees Conferred:

Ph.D., M.A.
M.D./Ph.D.
Integrated B.A. in Anthropology and B.A. in Classics and Ancient Mediterranean Studies / M.A. in Anthropology
Integrated B.S. in Archaeological Science and B.A. in Classics and Ancient Mediterranean Studies / M.A. in Anthropology
Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Demography
Dual-Title Graduate Degree (Ph.D.) in Anthropology and Bioethics
Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Human Dimensions of Natural Resources and the Environment (HDNRE)

The Graduate Faculty

The Program

The Department of Anthropology at Penn State integrates social, ecological, and evolutionary approaches to understand variability in the human condition through time and across space. We offer an integrated program of graduate study at both the Ph.D. and M.A.’s level focusing on specialized training in human and behavioral ecology, cultural anthropology, anthropological demography, archaeology, archaeometry, genetics, human evolution, and the behavioral and evolutionary biology of human and non-human primates. Students also have the option of enrolling in dual-title Ph.D. graduate programs in Demography, Human Dimensions of Natural Resources and the Environment (HNDRE), and Bioethics, and dual-title M.A. programs in Demography and HDNRE. The Department also offers two Integrated Undergraduate/Graduate (IUG) programs (B.A/M.A. and B.S./B.A/M.A.): with the Department of Classics (CAMS). In addition, the Department of Anthropology also offers a joint M.D./Ph.D. degree program with the College of Medicine.

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.
Entrance to the Anthropology graduate program occurs in the fall semester. Applications must be received by the department no later than December 1 for fall admission. The Department of Anthropology requires Ph.D. program applicants to submit official transcripts from all post-secondary institutions attended, Graduate Record Examinations (GRE) scores (verbal, quantitative, and analytical), a statement of purpose, a CV and at least three letters of recommendation from persons familiar with the applicant’s academic performance. A Master’s degree is not required to apply to the Ph.D. Program. The department does not admit students to the terminal Master’s degree, but does allow students to apply for a Master’s degree through admission to the IUG (Integrated Undergraduate and Graduate) program and Ph.D. degree program.

Students who are applying to the Integrated Undergraduate and Graduate (IUG) program must complete the Graduate School application for admission, and must meet all the admission requirements of the Graduate School and the Anthropology IUG graduate program. Students shall be admitted to an IUG program no earlier than the beginning of the third semester of undergraduate study at Penn State (regardless of transfer or AP credits accumulated prior to enrollment) and no later than the end of the second week of the semester preceding the semester of expected conferral of the undergraduate degree, as specified in the proposed IUG plan of study. Criteria for admission include a minimum GPA of 3.4 in their majors, strong recommendation letters from faculty, and an excellent proposal for a research project with a specific adviser who has agreed to guide the student through to the completion of the M.A. thesis or scholarly paper. In consultation with this adviser, students must prepare a plan of study appropriate to this integrated program, and must present their plan of study in person to the head of the graduate program or the appropriate committee overseeing the integrated program prior to being admitted to the program. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser as the student advances through the program.

M.D./Ph.D. Admission Requirements

Prospective students interested in simultaneously pursuing a M.D. and Ph.D. degree must apply to the College of Medicine M.D. program using the national American Medical College Application Service (AMCAS) application system and indicate their intent to pursue the joint-degree program. Admissions requirements and applications for admission for Penn State College of Medicine are available at the M.D. Program section of the Penn State College of Medicine website. Applicants must also meet the admission requirements of the Graduate School and the Ph.D. admission requirements listed above, however, the requirement for GRE scores is waived for students applying to the joint degree program. The M.D./Ph.D. Admissions Committee reviews applications and evaluates candidates for acceptance into both the M.D. and Ph.D. programs. After the review committee has accepted an applicant to the joint degree program, s/he must apply to the Graduate School for admission to the graduate program. Applicants not accepted into the joint-degree program may be referred to either the M.D. or Ph.D. program, depending on their qualifications.

Applicants to this program generally have very strong grades and MCAT scores, as well as a strong and sustained background in research. Applicants must be able to clearly articulate
reasons for pursuing the joint degree. Letters of recommendation from faculty who have advised the applicant in research and who can comment on the applicant’s passion and potential for research are strongly encouraged.

**Master's 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 at the 400, 500, 600, or 800 level is required, with at least 18 credits at the 500 and 600 level, combined. All Master’s students are required to take the three core theory seminars (ANTH 560 Ecology Evolution and Human Behavior, ANTH 571 Principles of Human Evolutionary Biology, ANTH 588 Method and Theory in Archaeology) for a total of nine credits and two core methods seminars ANTH 572, Advances in Anthropological Methods and ANTH 573 Anthropological Research Practicum, for a total of 6 credits. Students are also required to enroll in the literature review seminar (ANTH 541), for a total of 2 credits. Students can choose to complete a thesis or a scholarly paper as the culminating experience for the degree. Students who choose to complete a thesis must take a minimum of 6 thesis research credits (ANTH 600 or 610). The thesis must be accepted by the advisers and/or committee members, the head of the graduate program, and the Graduate School. Students in the non-thesis track must complete 18 credits at the 500 level, and must write a satisfactory scholarly paper, while enrolled in ANTH 596. All entering graduate students are expected to complete online training in Scholarship and Research Integrity (SARI), also referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence. Additional course work is tailored to the student’s research interests after advance consultation with their adviser, and specific courses may be required by the adviser depending on the student’s background and research plans.

**Doctoral Degree Requirements**

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

The doctoral degree in Anthropology requires a minimum of 30 credits, 27 of which are required coursework and 3 credits of which are electives. All first-year Ph.D. students are required to register for 9-12 credits per semester and complete 15 credits of course work, including the three core theory seminars (ANTH 560, ANTH 571, ANTH 588) and two research method seminars, ANTH 572 and ANTH 573. The core method and theory courses will serve as the basis for the Ph.D. candidacy exam, which will take place at the end of the first year. In the fall of the second year, all students in the Ph.D. program who have advanced to candidacy should enroll for a total of 9-12 credits per semester, including ANTH 509. ANTH 508, Visualizing Anthropological Data, is required for all Ph.D. students and may be taken at any point in the first two years. Students without suitable preparation in statistics may also be required to take a course at the 400 or 500 level at the adviser’s discretion. A student’s doctoral committee can require additional course work depending on the student’s background and research plans. All Ph.D. students are required to enroll in a one-unit literature review seminar (ANTH 541), for one credit each semester during the first six semesters of study. All entering graduate students are expected to complete online training in Scholarship and Research Integrity (SARI), also
referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence. A student’s doctoral committee can require reading knowledge and/or demonstrated working knowledge of a foreign language, specialized training in linguistics, or training in computer programming languages, depending on the student’s research interests. This will be determined shortly after the committee is formed. For the Ph.D. degree, students must conduct significant original research that demonstrates the student’s mastery of the field. The Ph.D. requirements include successful completion of coursework as stipulated by the department and doctoral committee, passing the candidacy exam, preparing a dissertation proposal, successfully passing the comprehensive exam/dissertation proposal defense, and writing and defending the subsequent dissertation. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School, and the student must pass a final oral examination (the dissertation defense).

M.D./Ph.D. Degree Requirements

Students must fulfill all requirements for each degree in order to be awarded that degree, subject to the double-counting of credits outlined below. Degree requirements for the M.D. program are listed on the Penn State College of Medicine website. For students enrolled in the joint degree program, the requirement for ANTH 572 and 573 will be waived, and students will be required to complete 2 credits of ANTH 541 instead of 6. The College of Medicine will accept 8 credits of ANTH 600 in lieu of two months of elective rotations (MED 797). In addition, the College of Medicine waives the requirement for a Medical Student Research project for students in the M.D./Ph.D. program.

If students accepted into the joint degree program are unable to complete the M.D. degree, they are still eligible to receive the Ph.D. degree if all the Ph.D. degree requirements have been satisfied.

In addition to the requirements for the doctoral committee for a Ph.D. student in the ANTH Graduate Program, at least one member of the dissertation committee must be on the M.D./Ph.D. Steering Committee. This member may serve other roles on the doctoral committee.

M.D./Ph.D. students must complete 25 credits. Candidates for the M.D./Ph.D. in ANTH will take all of the core courses for the ANTH Ph.D., as well as electives chosen by the ANTH M.D./Ph.D. student in consultation with their primary mentor. In the first semester of the second year at UP, all students in the ANTH Ph.D. program who have advanced to candidacy are required to take ANTH 509, the research methods seminar. ANTH 508, Anthropological Data Analysis and Visualization, is also required for all ANTH Ph.D. students and may be taken at any point in the first two years. Students without suitable preparation in statistics may also be required to take a course at the 400 or 500 level at the advisor’s discretion. At any point during the first two years, M.D./Ph.D. students may be required to take up to 6 additional credits of advanced seminars, as directed by their advisor. The M.D./Ph.D. students pursuing the ANTH Ph.D. are also required to enroll in a one-unit literature review seminar (ANTH 541) for one credit each semester during the first two semesters of study. All entering graduate students are expected to complete online training in Scholarship and Research Integrity (SARI), also referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence at University Park. In addition to taking the required core courses and the literature review course, six credits of elective
courses may be required in consultation with the student’s dissertation adviser and doctoral
committee. Eight credits of ANTH 600/601 Thesis Research/Ph.D. Dissertation conducted
over the four years of the graduate portion of the training program will be counted by the
College of Medicine in lieu of two months of elective rotations (MED 797). The College of
Medicine’s requirement for a Medical Student Research project is also waived for all
M.D./Ph.D. in ANTH candidates.

The doctoral committee of an M.D./Ph.D. student in ANTH will be formed upon successful
passing of the ANTH candidacy examination and commencement of work under a primary
mentor, no later than the end of the first semester of the second year of graduate study at UP.
The doctoral committee must include a minimum of four faculty members, i.e., the chair and
at least three additional members, all of whom must be members of the Graduate
Faculty. The committee must include at least two members of the ANTH graduate faculty
and one member of the M.D./Ph.D. steering committee. One member of the doctoral
committee must represent a field outside the candidate's major field of study in order to
provide a broader range of disciplinary perspectives and expertise. This person is the “outside
field member.” Additionally, one member of the committee must be an “outside unit
member,” a member of the graduate faculty outside the adviser’s administrative home (for a
tenure-line faculty member this is the department that serves as their tenure home). The same
person can be the outside field member and outside unit member.

The comprehensive examination for ANTH M.D./Ph.D. students will follow the same guidelines
as for Ph.D. students in ANTH, except that the comprehensive examination must be held before the end
of the second academic year at UP. The M.D./Ph.D. student must write a dissertation proposal in
preparation for the comprehensive exam, and a final version of the dissertation proposal must
be circulated by the student to all committee members at least four weeks in advance of the
comprehensive exam. The comprehensive examination for M.D./Ph.D. students will be an oral
examination, scheduled with the Graduate School at least two weeks ahead of time, which may be open
to the public. The examination will consist of student presentation of their dissertation proposal,
followed by questions and discussion. The student and the chair (or one of the co-chairs) is
physically present at the exam, which is given and evaluated by the entire doctoral
committee. A favorable vote of at least two-thirds of the members of the committee is
required for passing. In case of failure, it is the responsibility of the doctoral committee to
determine whether the candidate may take another examination. The results are reported to
the Office of Graduate Enrollment Services and are entered on the candidate's official record.

The dissertation requirements for ANTH Ph.D. and ANTH M.D./Ph.D. students are the
same: All Ph.D. candidates must conduct original research and prepare a dissertation that
makes a significant contribution of new knowledge, is presented in a scholarly manner, and
demonstrates an ability on the part of the candidate to do independent research of high
quality. The contents and conclusions of the dissertation must be defended at the time of the
final oral examination.

Students must present their dissertation in accordance with Graduate Council and Graduate
School guidelines as described in the Thesis and Dissertation Guide.
Integrated Undergraduate and Graduate (IUG) Degree Requirements

The Department of Anthropology offers integrated undergraduate-graduate (IUG) degree programs (B.A./B.A./M.A. or B.A./B.S./M.A.) designed to allow academically superior students to obtain either a B.A. degree in Anthropology or a B.S. degree in Archaeological Science, a B.A. degree in Classics and Ancient Mediterranean Studies (CAMS), and an M.A. degree in Anthropology in five years of study.

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 B.A. in Anthropology, B.A. in Classics and Ancient Mediterranean Studies, and B.S. in Archaeological Science are listed in the Undergraduate Bulletin. Degree requirements for the M.A. degree are listed below. Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted courses must be at the 500 or 800 level. Credits associated with the culminating experience for the graduate degree cannot be double-counted. The courses that are eligible to double count for both degrees are: ANTH 560, ANTH 571, ANTH 572, ANTH 573, and ANTH 588.

Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count towards the graduate degree. If students accepted into the IUG program are unable to complete the M.A. degree, they are still eligible to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.

Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Demography

The Demography interdisciplinary program is designed to give students in-depth knowledge of the demographic dimensions of anthropological research, including studies of present populations as well as those of the past.

Admissions Requirements

Students must apply and be admitted to the graduate program in Anthropology 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 Demography dual-title program. Refer to the Admission Requirements section of the Demography Bulletin page. Doctoral students must be admitted into the dual-title degree program in Demography 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 Anthropology, listed above. In addition, students must complete the degree requirements for the dual-title in Demography, listed on the Demography Bulletin page.
The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Anthropology and must include at least one Graduate Faculty member from the Demography 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 Anthropology and Demography. 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 Anthropology and Demography dual-title Ph.D. student must include at least one member of the Demography 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 Demography, the member of the committee representing Demography must be appointed as co-chair. The Demography 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 Anthropology and Demography. 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.

**Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Human Dimensions of Natural Resources and the Environment (HDNRE)**

The HDNRE program, which involves four colleges including the College of the Liberal Arts, is oriented toward research that furthers our understanding of the human use of natural resources, a pressing concern for all of us in the twenty-first century. Topics of special concern for anthropologists are the (very) long-term impact of humans on natural settings, and the ways people have adapted to those changes in their surroundings.

**Admissions Requirements**

Students must apply and be admitted to the graduate program in Anthropology 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 HDNRE dual-title program. Refer to the Admission Requirements section of the HDNRE Bulletin page. Doctoral students must be admitted into the dual-title degree program in HDNRE 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 Anthropology, listed above. In addition, students must complete the degree requirements for the dual-title in HDNRE, listed on the [HDNRE Bulletin page](#). The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Anthropology and must include at least one Graduate Faculty member from the HDNRE 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 from both Anthropology and HDNRE. 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 Anthropology and HDNRE dual-title Ph.D. student must include at least one member of the HDNRE 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 HDNRE, the member of the committee representing HDNRE must be appointed as co-chair. The HDNRE 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 Anthropology and HDNRE. 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.

**Dual-Title Ph.D. in Anthropology and Bioethics**

The [Bioethics program](#) provides anthropology students with an opportunity to develop their knowledge of the social and ethical implications of their research. This combination – solid research experience with an intimate knowledge of the ethical dimensions of that work – is increasingly important in the workplace, and broadens the possibilities of employment beyond traditional anthropology positions.

**Admissions Requirements**

Students must apply and be admitted to the graduate program in Anthropology 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 Bioethics dual-title program. Refer to the Admission Requirements section of the [Bioethics Bulletin page](#). Doctoral students must be admitted into the dual-title degree program in Bioethics 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 Anthropology, listed above. In addition, students must complete the degree requirements for the dual-title in Bioethics, listed on the Bioethics Bulletin page.

The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Anthropology and must include at least one Graduate Faculty member from the Bioethics 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 Anthropology and Bioethics. 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 Anthropology and Bioethics dual-title Ph.D. student must include at least one member of the Bioethics 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 Bioethics, the member of the committee representing Bioethics must be appointed as co-chair. The Bioethics 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 Anthropology and Bioethics. 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.

Student Aid

Graduate assistantships available to 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.”

**ANTHROPOLOGY (ANTH) course list**

Last Revised by the Department: Spring Semester 2017

Blue Sheet Item #: 42-01-122; 42-01-123

Review Date: 08/20/13

Faculty linked: 5/12/14
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 Office of the Dean of the Graduate School, 211 Kern Building, University Park. 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: Liberal Arts  
Department or Instructional Area: Anthropology

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: Anthropology  
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): Revise Master's requirements

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

Submitted by Graduate Program Head

Douglas J. Kennett  
Printed name  
Signature  
Date: 11-28-17

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

Michael Putnam  
Printed name  
Signature  
Date: 1/31/2018

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

David Scott Bennett  
Printed name  
Signature  
Date: 2/11/18
<table>
<thead>
<tr>
<th>Role</th>
<th>Printed name</th>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:</td>
<td>C. Andrew Cole</td>
<td>Valo Hewitt</td>
<td>5/19/2018</td>
</tr>
<tr>
<td>Recommended by Chair, Graduate Council Committee on Programs and Courses:</td>
<td>M. Kathleen Heid</td>
<td>Valo Hewitt</td>
<td>5/19/2018</td>
</tr>
<tr>
<td>Noted by Dean of the Graduate School:</td>
<td>Regina Vasilatos-Younken</td>
<td>Valo Hewitt</td>
<td>5/19/2018</td>
</tr>
</tbody>
</table>
Changes to Anthropology’s Master’s Requirements

a) Justification for proposed changes:

Under new leadership in the Fall of 2016, the Anthropology Department conducted a review of graduate program requirements and proposed changes that were approved in Spring 2017. These proposed changes were designed to i) make it more likely that students could finish the degree in five years, ii) reduce the possibility of under-enrollment in graduate seminars, iii) create greater integration between Anthropology subdisciplines, iv) improve the employment prospects of our graduate students upon leaving Penn State, and v) increase recruitment and retention by streamlining and modernizing our training program.

Towards the end of the review, we were required to make changes to our master’s degree that ultimately affected our ANTH/CAMS Integrated Undergraduate (IUG) program. During recent discussions between the two departments, it was decided that to retain the ANTH/CAMS IUG program, the IUG program requirements would need to be revised along with making an adjustment to our master’s degree requirements so that both programs i) would be in compliance with the Graduate School requirements, and ii) the ANTH/CAMS IUG could still exist.

In summary, we are submitting the following minor changes to our Graduate Program. We would like to drop the requirement for ANTH 572 and ANTH 573 at the master’s level and only require it for student’s in our Ph.D. program. In addition, we would like to make ANTH 541 eligible to double count for the IUG program.

b) Table showing old program requirements vs proposed program requirements

<table>
<thead>
<tr>
<th>Changes to Anthropology Master’s Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Requirements Listed in Bulletin</strong></td>
</tr>
<tr>
<td><strong>Master’s Degree Requirements</strong></td>
</tr>
<tr>
<td>Requirements listed here are in addition to</td>
</tr>
<tr>
<td>requirements stated in the DEGREE</td>
</tr>
<tr>
<td>REQUIREMENTS section of the Graduate Bulletin.</td>
</tr>
<tr>
<td>A minimum of 30 credits at the 400, 500, 600, or 800 level is required, with least 18 credits at the 500 and 600 level, combined. All Master’s students are required to take the three core theory seminars (ANTH 560 Ecology Evolution and Human Behavior, ANTH 571 Principles of Human)</td>
</tr>
</tbody>
</table>
Evolutionary Biology, ANTH 588
Method and Theory in Archaeology)
for a total of nine credits and two core
methods seminars ANTH 572, Advances
in Anthropological Methods and ANTH
573 Anthropological Research Practicum,
for a total of 6 credits. Students are also
required to enroll in the literature
review seminar (ANTH 541), for a
total of 2 credits. A Master’s thesis,
including 6 credits of ANTH 600
Thesis Research is optional. This thesis
must be accepted by the advisers
and/or committee members, the head of
the graduate program, and the Graduate
School. Students in the non-thesis track
must write a satisfactory scholarly
paper, while enrolled in ANTH 596.
All entering graduate students are
expected to complete online training
in Scholarship and Research Integrity
(SARI), also referred to as Responsible
Conduct of Research (RCR), by no later
than October 1 of their first semester
in residence.

Doctoral Degree Requirements

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

The doctoral degree in Anthropology requires
a minimum of 30 credits, 27 of which are
required coursework. All first-year Ph.D.
students are required to register for 9-12 credits
per semester and complete 15 credits of
course work, including the three core theory
seminars (ANTH 560, ANTH 571, ANTH 588)
and two research method seminars, ANTH 572
and ANTH 573. The core method and theory
courses will serve as the basis for the Ph.D.
candidacy exam, which will take place at the end
of the first year. In the fall of the second year, all
students in the Ph.D. program who have advanced

Doctoral Degree Requirements

Same

Integrated Undergraduate and Graduate
(IUG) Degree Requirements

The Department of Anthropology offers
integrated undergraduate-graduate (IUG)
degree programs (B.A./B.A./M.A. or
B.A./B.S./M.A.) designed to allow
academically superior students to obtain an
either B.A. degree in Anthropology or a B.S.
degree in Archaeological Science, a B.A.
degree in Classics and Ancient Mediterranean
Studies (CAMS), and an M.A. degree in
Anthropology in five years of study.

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.
to candidacy should enroll for a total of 9-12 credits per semester, including ANTH 509, ANTH 508, Visualizing Anthropological Data, is required for all Ph.D. students and may be taken at any point in the first two years. Students without suitable preparation in statistics may also be required to take a course at the 400 or 500 level at the advisor’s discretion. A student’s doctoral committee can require additional course work depending on the student’s background and research plans. All Ph.D. students are required to enroll in a one-unit literature review seminar (ANTH 541), for one credit each semester during the first six semesters of study. All entering graduate students are expected to complete online training in Scholarship and Research Integrity (SARI), also referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence. A student’s doctoral committee can require reading knowledge and/or demonstrated working knowledge of a foreign language, specialized training in linguistics, or training in computer programming languages, depending on the student’s research interests. For the Ph.D. degree, students must conduct significant original research that demonstrates the student’s mastery of the field. The Ph.D. requirements include successful completion of coursework as stipulated by the department and doctoral committee, passing the candidacy exam, preparing a dissertation proposal, successfully passing the comprehensive exam/dissertation proposal defense, and writing and defending the subsequent dissertation. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School, and the student must pass a final oral examination (the dissertation defense).

Integrated Undergraduate and Graduate (IUG) Degree Requirements

Degree requirements for the B.A. in Anthropology, B.A. in Classics and Ancient Mediterranean Studies, and B.S. in Archaeological Science are listed in the Undergraduate Bulletin. Degree requirements for the M.A. degree are listed below. Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted courses must be at the 500 or 800 level. Credits associated with the culminating experience for the graduate degree cannot be double-counted. The courses that are eligible to double count for both degrees are: ANTH 541, ANTH 560, ANTH 571, ANTH 588.

Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count towards the graduate degree. If students accepted into the IUG program are unable to complete the M.A. degree, they are still eligible to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.
The Department of Anthropology offers integrated undergraduate-graduate (IUG) degree programs (B.A./B.A./M.A. or B.A./B.S./M.A.) designed to allow academically superior students to obtain an either B.A. degree in Anthropology or a B.S. degree in Archaeological Science, a B.A. degree in Classics and Ancient Mediterranean Studies (CAMS), and an M.A. degree in Anthropology in five years of study.

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 B.A. in Anthropology, B.A. in Classics and Ancient Mediterranean Studies, and B.S. in Archaeological Science are listed in the Undergraduate Bulletin. Degree requirements for the M.A. degree are listed below. Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted courses must be at the 500 or 800 level. Credits associated with the culminating experience for the graduate degree cannot be double-counted. The courses that are eligible to double count for both degrees are: ANTH 560, ANTH 571, ANTH 572, ANTH 573, ANTH 588.

Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count towards the graduate degree. If students accepted into the IUG program are unable to complete the M.A. degree, they are still eligible to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.
c) Original written responses from departments affected?

Mark Munn letter of support submitted

d) Written evidence of consultation with the Office for Research Protections regarding SARI requirements, as necessary, depending on the nature of the proposed change(s).

Not applicable
Anthropology (ANTH)

Program Home Page

DOUGLAS J. KENNETT, Head
Department of Anthropology
413 Carpenter Building
814-867-0005
814-863-1474 (fax)
anth.la.psu.edu

Degrees Conferred:

Ph.D., M.A.
M.D./Ph.D.
Integrated B.A. in Anthropology and B.A. in Classics and Ancient Mediterranean Studies / M.A. in Anthropology
Integrated B.S. in Archaeological Science and B.A. in Classics and Ancient Mediterranean Studies / M.A. in Anthropology
Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Demography
Dual-Title Graduate Degree (Ph.D.) in Anthropology and Bioethics
Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Human Dimensions of Natural Resources and the Environment (HDNRE)

The Graduate Faculty

The Program

The Department of Anthropology at Penn State integrates social, ecological, and evolutionary approaches to understand variability in the human condition through time and across space. We offer an integrated program of graduate study at both the Ph.D. and M.A.’s level focusing on specialized training in human and behavioral ecology, cultural anthropology, anthropological demography, archaeology, archaeometry, genetics, human evolution, and the behavioral and evolutionary biology of human and non-human primates. Students also have the option of enrolling in dual-title Ph.D. graduate programs in Demography, Human Dimensions of Natural Resources and the Environment (HNDRE), and Bioethics, and dual-title M.A. programs in Demography and HDNRE. The Department also offers two Integrated Undergraduate/Graduate (IUG) programs (B.A/M.A. and B.S./B.A/M.A.): with the Department of Classics (CAMS). In addition, the Department of Anthropology also offers a joint M.D./Ph.D. degree program with the College of Medicine.

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.
Entrance to the Anthropology graduate program occurs in the fall semester. Applications must be received by the department no later than December 1 for fall admission. The Department of Anthropology requires Ph.D. program applicants to submit official transcripts from all post-secondary institutions attended, Graduate Record Examinations (GRE) scores (verbal, quantitative, and analytical), a statement of purpose, a CV and at least three letters of recommendation from persons familiar with the applicant’s academic performance. A Master’s degree is not required to apply to the Ph.D. Program. The department does not admit students to the terminal Master’s degree, but does allow students to apply for a Master’s degree through admission to the IUG (Integrated Undergraduate and Graduate) program and Ph.D. degree program.

Students who are applying to the Integrated Undergraduate and Graduate (IUG) program must complete the Graduate School application for admission, and must meet all the admission requirements of the Graduate School and the Anthropology IUG graduate program. Students shall be admitted to an IUG program no earlier than the beginning of the third semester of undergraduate study at Penn State (regardless of transfer or AP credits accumulated prior to enrollment) and no later than the end of the second week of the semester preceding the semester of expected conferral of the undergraduate degree, as specified in the proposed IUG plan of study. Criteria for admission include a minimum GPA of 3.4 in their majors, strong recommendation letters from faculty, and an excellent proposal for a research project with a specific adviser who has agreed to guide the student through to the completion of the M.A. thesis or scholarly paper. In consultation with this adviser, students must prepare a plan of study appropriate to this integrated program, and must present their plan of study in person to the head of the graduate program or the appropriate committee overseeing the integrated program prior to being admitted to the program. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser as the student advances through the program.

M.D./Ph.D. Admission Requirements

Prospective students interested in simultaneously pursuing a M.D. and Ph.D. degree must apply to the College of Medicine M.D. program using the national American Medical College Application Service (AMCAS) application system and indicate their intent to pursue the joint-degree program. Admissions requirements and applications for admission for Penn State College of Medicine are available at the M.D. Program section of the Penn State College of Medicine website. Applicants must also meet the admission requirements of the Graduate School and the Ph.D. admission requirements listed above, however, the requirement for GRE scores is waived for students applying to the joint degree program. The M.D./Ph.D. Admissions Committee reviews applications and evaluates candidates for acceptance into both the M.D. and Ph.D. programs. After the review committee has accepted an applicant to the joint degree program, s/he must apply to the Graduate School for admission to the graduate program. Applicants not accepted into the joint-degree program may be referred to either the M.D. or Ph.D. program, depending on their qualifications.

Applicants to this program generally have very strong grades and MCAT scores, as well as a strong and sustained background in research. Applicants must be able to clearly articulate
reasons for pursuing the joint degree. Letters of recommendation from faculty who have advised
the applicant in research and who can comment on the applicant’s passion and potential for
research are strongly encouraged.

**Master's 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 at the 400, 500, 600, or 800 level is required, with at least 18 credits at the
500 and 600 level, combined. All Master’s students are required to take the three core theory
seminars (ANTH 560 Ecology Evolution and Human Behavior, ANTH 571 Principles of Human
Evolutionary Biology, ANTH 588 Method and Theory in Archaeology) for a total of nine credits and
two core methods seminars ANTH 572, Advances in Anthropological Methods and ANTH 573
Anthropological Research Practicum, for a total of 6 credits. Students are also required to enroll in the
literature review seminar (ANTH 541), for a total of 2 credits. Students can choose to complete a
thesis or a scholarly paper as the culminating experience for the degree. Students who choose
to complete a thesis must take a minimum of 6 thesis research credits (ANTH 600 or 610).
The thesis must be accepted by the advisers and/or committee members, the head of the graduate
program, and the Graduate School. Students in the non-thesis track must complete 18 credits at the
500 level, and must write a satisfactory scholarly paper, while enrolled in ANTH 596. All entering
graduate students are expected to complete online training in Scholarship and Research Integrity
(SARI), also referred to as Responsible Conduct of Research (RCR), by no later than October 1 of
their first semester in residence. Additional course work is tailored to the student’s research
interests after advance consultation with their adviser, and specific courses may be required by
the adviser depending on the student’s background and research plans.

**Doctoral Degree Requirements**

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

The doctoral degree in Anthropology requires a minimum of 30 credits, 27 of which are required
coursework and 3 credits of which are electives. All first-year Ph.D. students are required to register
for 9-12 credits per semester and complete 15 credits of course work, including the three core
theory seminars (ANTH 560, ANTH 571, ANTH 588) and two research method seminars, ANTH 572
and ANTH 573. The core method and theory courses will serve as the basis for the Ph.D. candidacy exam,
which will take place at the end of the first year. In the fall of the second year, all students in the Ph.D.
program who have advanced to candidacy should enroll for a total of 9-12 credits per semester, including
ANTH 509. ANTH 508, Visualizing Anthropological Data, is required for all Ph.D. students and may be
taken at any point in the first two years. Students without suitable preparation in statistics may also be
required to take a course at the 400 or 500 level at the adviser’s discretion. A student’s doctoral
committee can require additional course work depending on the student’s background and
research plans. All Ph.D. students are required to enroll in a one-unit literature review seminar (ANTH
541), for one credit each semester during the first six semesters of study. All entering graduate students
are expected to complete online training in Scholarship and Research Integrity (SARI), also
referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence. A student’s doctoral committee can require reading knowledge and/or demonstrated working knowledge of a foreign language, specialized training in linguistics, or training in computer programming languages, depending on the student’s research interests. This will be determined shortly after the committee is formed. For the Ph.D. degree, students must conduct significant original research that demonstrates the student’s mastery of the field. The Ph.D. requirements include successful completion of coursework as stipulated by the department and doctoral committee, passing the candidacy exam, preparing a dissertation proposal, successfully passing the comprehensive exam/dissertation proposal defense, and writing and defending the subsequent dissertation. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School, and the student must pass a final oral examination (the dissertation defense).

M.D./Ph.D. Degree Requirements

Students must fulfill all requirements for each degree in order to be awarded that degree, subject to the double-counting of credits outlined below. Degree requirements for the M.D. program are listed on the Penn State College of Medicine website. For students enrolled in the joint degree program, the requirement for ANTH 572 and 573 will be waived, and students will be required to complete 2 credits of ANTH 541 instead of 6. The College of Medicine will accept 8 credits of ANTH 600 in lieu of two months of elective rotations (MED 797). In addition, the College of Medicine waives the requirement for a Medical Student Research project for students in the M.D./Ph.D. program.”

If students accepted into the joint degree program are unable to complete the M.D. degree, they are still eligible to receive the Ph.D. degree if all the Ph.D. degree requirements have been satisfied.

In addition to the requirements for the doctoral committee for a Ph.D. student in the ANTH Graduate Program, at least one member of the dissertation committee must be on the M.D./Ph.D. Steering Committee. This member may serve other roles on the doctoral committee.

M.D./Ph.D. students must complete 25 credits. Candidates for the M.D./Ph.D. in ANTH will take all of the core courses for the ANTH Ph.D., as well as electives chosen by the ANTH M.D./Ph.D. student in consultation with their primary mentor. In the first semester of the second year at UP, all students in the ANTH Ph.D. program who have advanced to candidacy are required to take ANTH 509, the research methods seminar. ANTH 508, Anthropological Data Analysis and Visualization, is also required for all ANTH Ph.D. students and may be taken at any point in the first two years. Students without suitable preparation in statistics may also be required to take a course at the 400 or 500 level at the advisor’s discretion. At any point during the first two years, M.D./Ph.D. students may be required to take up to 6 additional credits of advanced seminars, as directed by their advisor. The M.D./Ph.D. students pursuing the ANTH Ph.D. are also required to enroll in a one-unit literature review seminar (ANTH 541) for one credit each semester during the first two semesters of study. All entering graduate students are expected to complete online training in Scholarship and Research Integrity (SARI), also referred to as Responsible Conduct of Research (RCR), by no later than October 1 of their first semester in residence at University Park. In addition to taking the required core courses and the literature review course, six credits of elective
courses may be required in consultation with the student’s dissertation adviser and doctoral committee. Eight credits of ANTH 600/601 Thesis Research/Ph.D. Dissertation conducted over the four years of the graduate portion of the training program will be counted by the College of Medicine in lieu of two months of elective rotations (MED 797). The College of Medicine’s requirement for a Medical Student Research project is also waived for all M.D./Ph.D. in ANTH candidates.

The doctoral committee of an M.D./Ph.D. student in ANTH will be formed upon successful passing of the ANTH candidacy examination and commencement of work under a primary mentor, no later than the end of the first semester of the second year of graduate study at UP. The doctoral committee must include a minimum of four faculty members, i.e., the chair and at least three additional members, all of whom must be members of the Graduate Faculty. The committee must include at least two members of the ANTH graduate faculty and one member of the M.D./Ph.D. steering committee. One member of the doctoral committee must represent a field outside the candidate's major field of study in order to provide a broader range of disciplinary perspectives and expertise. This person is the “outside field member.” Additionally, one member of the committee must be an “outside unit member,” a member of the graduate faculty outside the adviser’s administrative home (for a tenure-line faculty member this is the department that serves as their tenure home). The same person can be the outside field member and outside unit member.

The comprehensive examination for ANTH M.D./Ph.D. students will follow the same guidelines as for Ph.D. students in ANTH, except that the comprehensive examination must be held before the end of the second academic year at UP. The M.D./Ph.D. student must write a dissertation proposal in preparation for the comprehensive exam, and a final version of the dissertation proposal must be circulated by the student to all committee members at least four weeks in advance of the comprehensive exam. The comprehensive examination for M.D./Ph.D. students will be an oral examination, scheduled with the Graduate School at least two weeks ahead of time, which may be open to the public. The examination will consist of student presentation of their dissertation proposal, followed by questions and discussion. The student and the chair (or one of the co-chairs) is physically present at the exam, which is given and evaluated by the entire doctoral committee. A favorable vote of at least two-thirds of the members of the committee is required for passing. In case of failure, it is the responsibility of the doctoral committee to determine whether the candidate may take another examination. The results are reported to the Office of Graduate Enrollment Services and are entered on the candidate's official record.

The dissertation requirements for ANTH Ph.D. and ANTH M.D./Ph.D. students are the same: All Ph.D. candidates must conduct original research and prepare a dissertation that makes a significant contribution of new knowledge, is presented in a scholarly manner, and demonstrates an ability on the part of the candidate to do independent research of high quality. The contents and conclusions of the dissertation must be defended at the time of the final oral examination.

Students must present their dissertation in accordance with Graduate Council and Graduate School guidelines as described in the Thesis and Dissertation Guide.
Integrated Undergraduate and Graduate (IUG) Degree Requirements

The Department of Anthropology offers integrated undergraduate-graduate (IUG) degree programs (B.A./B.A./M.A. or B.A./B.S./M.A.) designed to allow academically superior students to obtain either a B.A. degree in Anthropology or a B.S. degree in Archaeological Science, a B.A. degree in Classics and Ancient Mediterranean Studies (CAMS), and an M.A. degree in Anthropology in five years of study.

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 B.A. in Anthropology, B.A. in Classics and Ancient Mediterranean Studies, and B.S. in Archaeological Science are listed in the Undergraduate Bulletin. Degree requirements for the M.A. degree are listed below. Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted courses must be at the 500 or 800 level. Credits associated with the culminating experience for the graduate degree cannot be double-counted. The courses that are eligible to double count for both degrees are: ANTH 560, ANTH 571, ANTH 572, ANTH 573, and ANTH 588.

Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count towards the graduate degree. If students accepted into the IUG program are unable to complete the M.A. degree, they are still eligible to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.

Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Demography

The Demography interdisciplinary program is designed to give students in-depth knowledge of the demographic dimensions of anthropological research, including studies of present populations as well as those of the past.

Admissions Requirements

Students must apply and be admitted to the graduate program in Anthropology 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 Demography dual-title program. Refer to the Admission Requirements section of the Demography Bulletin page. Doctoral students must be admitted into the dual-title degree program in Demography 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 Anthropology, listed above. In addition, students must complete the degree requirements for the dual-title in Demography, listed on the Demography Bulletin page.
The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Anthropology and must include at least one Graduate Faculty member from the Demography 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 Anthropology and Demography. 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 Anthropology and Demography dual-title Ph.D. student must include at least one member of the Demography 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 Demography, the member of the committee representing Demography must be appointed as co-chair. The Demography 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 Anthropology and Demography. 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.

**Dual-Title Graduate Degree (M.A./Ph.D.) in Anthropology and Human Dimensions of Natural Resources and the Environment (HDNRE)**

The **HDNRE program**, which involves four colleges including the College of the Liberal Arts, is oriented toward research that furthers our understanding of the human use of natural resources, a pressing concern for all of us in the twenty-first century. Topics of special concern for anthropologists are the (very) long-term impact of humans on natural settings, and the ways people have adapted to those changes in their surroundings.

**Admissions Requirements**

Students must apply and be admitted to the graduate program in Anthropology 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 HDNRE dual-title program. Refer to the Admission Requirements section of the **HDNRE Bulletin page**. Doctoral students must be admitted into the dual-title degree program in HDNRE 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 Anthropology, listed above. In addition, students must complete the degree requirements for the dual-title in HDNRE, listed on the HDNRE Bulletin page.

The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Anthropology and must include at least one Graduate Faculty member from the HDNRE 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 from both Anthropology and HDNRE. 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 Anthropology and HDNRE dual-title Ph.D. student must include at least one member of the HDNRE 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 HDNRE, the member of the committee representing HDNRE must be appointed as co-chair. The HDNRE 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 Anthropology and HDNRE. 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.

Dual-Title Ph.D. in Anthropology and Bioethics

The Bioethics program provides anthropology students with an opportunity to develop their knowledge of the social and ethical implications of their research. This combination – solid research experience with an intimate knowledge of the ethical dimensions of that work – is increasingly important in the workplace, and broadens the possibilities of employment beyond traditional anthropology positions.

Admissions Requirements

Students must apply and be admitted to the graduate program in Anthropology 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 Bioethics dual-title program. Refer to the Admission Requirements section of the Bioethics Bulletin page. Doctoral students must be admitted into the dual-title degree program in Bioethics 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 Anthropology, listed above. In addition, students must complete the degree requirements for the dual-title in Bioethics, listed on the Bioethics Bulletin page.

The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Anthropology and must include at least one Graduate Faculty member from the Bioethics 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 Anthropology and Bioethics. 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 Anthropology and Bioethics dual-title Ph.D. student must include at least one member of the Bioethics 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 Bioethics, the member of the committee representing Bioethics must be appointed as co-chair. The Bioethics 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 Anthropology and Bioethics. 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.

Student Aid

Graduate assistantships available to 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.”

**ANTHROPOLOGY (ANTH) course list**

Last Revised by the Department: Spring Semester 2017

Blue Sheet Item #: 42-01-122; 42-01-123

Review Date: 08/20/13

Faculty linked: 5/12/14
November 21, 2017

MEMO

TO: The Graduate School, Penn State

FROM: Mark Munn, Professor and Department Head
Classics and Ancient Mediterranean Studies

SUBJECT: Proposed Changes to Anthropology Master’s requirements

I write to express the strong support of the Department of Classics and Ancient Mediterranean Studies (CAMS) for the changes proposed to the requirements for the Master’s degree in Anthropology. CAMS partners with Anthropology in an IUG degree program for a Master’s in Anthropology, focusing on our common interest in archaeology. The proposed changes will enable the CAMS contribution to the IUG to be an effective part of this IUG, and will allow our two departments to contribute to the educational goals of our most talented undergraduate students who seek this IUG as a step towards their advanced post-graduate training.
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 Office of the Dean of the Graduate School, 211 Kern Building, University Park. 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 Arts and Architecture
Department or Instructional Area: School of Visual Arts

<table>
<thead>
<tr>
<th>New Graduate Program, Option, or Minor:</th>
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<tr>
<td>Designation of new graduate program:</td>
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<td>Classification of Instructional Programs (CIP) Code:</td>
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<td>Designation of new graduate option:</td>
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<td>Indicate effective semester:</td>
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Office of the Vice Provost and Dean of the Graduate School

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<tr>
<th>Existing Graduate Program Option, or Minor:</th>
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<tr>
<td>Current designation of graduate program:</td>
<td>Art (ART MFA)</td>
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<tr>
<td>Current designation of graduate option:</td>
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<td>New designation of existing graduate program (if changing):</td>
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<td>Brief description of the change (if not noted above):</td>
<td>Update to Graduate Bulletin listing, no requirement changes</td>
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<td>Indicate effective semester:</td>
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Submitted by Graduate Program Head

| Graeme Sullivan | Date: 2.2.18 |
| Printed name    | Signature    |

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

| Charles Andrew Cole | Date: 2.6.18 |
| Printed name        | Signature    |

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

<p>| Scott Wing | Date: 2.6.18 |
| Printed name | Signature     |</p>
<table>
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<tr>
<th>Role</th>
<th>Name</th>
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<td>Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:</td>
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<td>5/9/2018</td>
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<td>On Behalf of C. Andrew Cole</td>
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<td>Recommended by Chair, Graduate Council Committee on Programs and Courses:</td>
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<td>5/9/2018</td>
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<tr>
<td>On Behalf of Regina Vasilatos-Younken</td>
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PROGRAM CHANGE PROPOSAL FOR
Art (ART_MFA)

SUBMITTED BY
Jean Sanders
Graduate Program Officer
Jms31@psu.edu
Justification for the Proposed Changes

*State why the change is being proposed, and any expected outcomes as a result.*

The proposed changes to the Art (MFA) program consist entirely of revisions of the Bulletin listing. The current bulletin listing was last updated prior to 2010 and does not include all required information. Missing information has been added and the Program Description rewritten to reflect the program information submitted to the National Association of Schools of Art and Design as part of Penn State’s 2017 Accreditation Review.
Comparison of Changes

A description of the proposed changes as compared to the existing program requirements, so the reviewers can determine what specifically is being changed. A table is recommended.

No changes are being made to program requirements. The following changes are being proposed to the Bulletin text to bring the program description in line with the program’s external accreditation and to clarify current requirements. A brief justification is included in italics following each proposed change.

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Justification</th>
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<tbody>
<tr>
<td>CRISTIN MILLETT, Studio Graduate Programs Coordinator in Art 210 Patterson Building 814-865-0444 <a href="mailto:elm23@psu.edu">elm23@psu.edu</a></td>
<td>JEAN SANDERS, Studio Graduate Program Officer in Art 210 Patterson Building 814-865-0444 <a href="mailto:jms31@psu.edu">jms31@psu.edu</a></td>
<td>Jean replaced Cristin as Graduate Officer at the beginning of the 17-18 Academic Year and is listed as such in the GPMS</td>
</tr>
<tr>
<td>M.F.A. program is planned to provide professional emphasis in a specific area of art.</td>
<td>The Penn State School of Visual Arts offers the degree of Master of Fine Arts (M.F.A.) in Art, a 60-credit graduate program supporting artistic work, academic inquiry, and creative investigation in the areas of ceramics, drawing &amp; painting, graphic design, new media art, photography, and sculpture. While students situate themselves within one of these areas of concentration, the structure of the program encourages interplay between media and disciplines in support of each individual’s graduate work. Headed by a dedicated faculty of internationally acclaimed artists, the MFA program is recognized for emphasizing excellence in the study of visual art and fostering artistic production that engages critically with contemporary culture. By</td>
<td>The revised program description was crafted by the Studio Graduate Program Committee based on the programs descriptions used for the School’s external accreditation.</td>
</tr>
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</table>
creating a rigorous yet supportive environment in the context of a major public research university, the program encourages expansive growth and innovative collaboration in studio practice. The regular interaction between studio and classroom creates a close-knit intellectual community that furthers critical thinking and creative connectedness. As the transformative power of art in today’s society continues to evolve, the Penn State School of Visual Arts encourages artists to address contemporary social and cultural issues through creative production.

<p>| A portfolio of his/her work to illustrate his/her preparation for graduate study. A portfolio of slides, rather than actual work, is required. A selection of no fewer than twenty examples should be presented. The majority should be in the area of the applicant's interest. | A portfolio of his/her work to illustrate his/her preparation for graduate study. A portfolio of digital images, rather than actual work, is required. A selection of no fewer than twenty examples should be presented. The majority should be in the area of the applicant's interest. | Digital images have been accepted in place of slides for many years now. This both makes the process easier for applicants and reflects current practice in the art world. |</p>
<table>
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<tr>
<th>Of the 60 credits required for graduation, candidates are expected to complete the following distribution of credits: 30 credits in a major area of concentration, 12 credits in art history and critical studies, 10 credits in related areas, and 8 credits in graduate seminar.</th>
<th>Of the 60 credits required for graduation, candidates are expected to complete the following distribution of credits: 30 credits in a major area of concentration, 12 credits in art history and critical studies, 10 credits in related areas, and 8 credits in graduate seminar (ART 505).</th>
<th>ART 505 is the only graduate seminar course offered by the Art program and has long been the only course fulfilling that requirement. This revision specifies it as such. All other credit requirements can be met in many ways.</th>
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<tr>
<td>In addition to course work, M.F.A. candidates must pass a candidacy review, which is usually held at the end of the second semester of study, submit an artist's statement, pass the M.F.A. comprehensive oral examination and produce an M.F.A. exhibition.</td>
<td>In addition to course work, M.F.A. candidates must pass a candidacy review, which is usually held at the end of the second semester of study, submit an artist's statement, pass the M.F.A. comprehensive oral examination and produce an M.F.A. exhibition. The approval of the M.F.A exhibition by a candidate’s committee represents the culminating experience of the program.</td>
<td>The exhibition has always been the culminating experience of the MFA program and was recognized as such when the Graduate School adopted its current language regarding such experiences. This revision makes this status explicit in the program’s bulleted listing.</td>
</tr>
</tbody>
</table>
Existing Graduate Bulletin Copy

A complete and current copy of the existing Bulletin page for the program, with any changes that need to be made marked by using Track Changes.

See attached document with Track Changes.
Consultation

Written evidence of consultation with any departments affected by the proposed change. Consultation must include the original query and the full reply by the consultant. Consultations submitted as part of the proposal will be available to the public when the proposal is published, so private exchanges should be edited out and any references to current students should be removed.

The proposed changes primarily affect the School of Visual Arts. Several members of the Graphic Design faculty are appointed to the Graduate Faculty for the MFA in Art. The proposal was reviewed by representatives of both programs. The School of Visual Arts review was conducted by the Studio Graduate Program Committee, an elected faculty committee tasked with overseeing the graduate program. Bonnie Collura, Shannon Goff, Andrew Hieronymi, Steven Rubin, and Jean Sanders currently sit on this committee. Keith Cummings, former PIC, was consulted from the Graphic Design program. The email sent to each of these and each of their responses follows:

CONSULTATION MESSAGE

Hello everyone,

I have taken the proposed changes which were approved in the Studio Graduate Program Committee meeting yesterday and inserted them into our Bulletin listing. The result is attached, with Track Changes to highlight the changes made. Please respond to this email to indicate your approval or to suggest any further changes that you feel are necessary. A written record of consultation with faculty representatives is required with our proposal submission, and your responses will fulfill this requirement. To that end I am also including Keith Cummings on this email as our contact with Graphic Design. Keith, the MFA faculty are proposing some minor changes to the program's listing in the Graduate Bulletin to improve the clarity of the description. No program requirements are being changed.

COLLURA RESPONSE

Hi Jeremy,

Thank you for sending this. I approve the changes-

Best
Bonnie

GOFF RESPONSE

Hello,

I also approve these changes.

Thanks again
Shannon
HIERONYMI RESPONSE

I talked to Carlos and we decided to stick with "new media" vs "new media art". I can explain the reasons at our next meeting but if that's OK with the committee let's stick with "new media" for now.

thanks
andrew

[This wording change has been made]

RUBIN RESPONSE

I'm Steven Rubin and I approve this message change.

Best,
Steven

SANDERS RESPONSE

I concur! Jean.

CUMMINGS RESPONSE

Jeremy: Thank you for including me on this issue. I approve the edits proposed for the bulletin.
-Keith
Art (ART)

Program Home Page

JEAN SANDERS, Studio Graduate Program Officer in Art
210 Patterson Building
814-865-0444
jms31@psu.edu

Degrees Conferred:

M.F.A.

The Graduate Faculty

The Penn State School of Visual Arts offers the degree of Master of Fine Arts (M.F.A.) in Art, a 60-credit graduate program supporting artistic work, academic inquiry, and creative investigation in the areas of ceramics, drawing & painting, graphic design, new media, photography, and sculpture. While students situate themselves within one of these areas of concentration, the structure of the program encourages interplay between media and disciplines in support of each individual’s graduate work.

Headed by a dedicated faculty of internationally acclaimed artists, the MFA program is recognized for emphasizing excellence in the study of visual art and fostering artistic production that engages critically with contemporary culture. By creating a rigorous yet supportive environment in the context of a major public research university, the program encourages expansive growth and innovative collaboration in studio practice. The regular interaction between studio and classroom creates a close-knit intellectual community that furthers critical thinking and creative connectedness. As the transformative power of art in today’s society continues to evolve, the Penn State School of Visual Arts encourages artists to address contemporary social and cultural issues through creative production.

Admission Requirements

Requirements listed here are in addition to general Graduate School 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 Master of Fine Arts program in art, with its emphasis on professional study, is designed for the mature individual who by previous training and study has sufficiently prepared for the
undertaking. It is strongly suggested that applicants have a minimum of 12 credits of art history at the undergraduate level. Any qualified student holding a bachelor’s degree from a U.S. regionally accredited institution or a postsecondary degree that is equivalent to a U.S. baccalaureate degree earned from an officially recognized degree-granting international institution may seek admission. The School of Visual Arts requires a minimum of 3.00 junior/senior grade-point average (on a 4.00 scale) for admission to the master of fine arts program. Exceptions to the minimum 3.00 average may be made for students with special backgrounds, abilities, and interests, at the discretion of the program.

In addition to the previous requirements, all applicants must submit:

1. A portfolio of his/her work to illustrate his/her preparation for graduate study. A portfolio of digital images, rather than actual work, is required. A selection of no fewer than twenty examples should be presented. The majority should be in the area of the applicant's interest.
2. A statement of professional aims. This statement should include the applicant's intentions for his/her proposed study. Some indications of his/her philosophy, beliefs, and goals in regard to education and art should give evidence that he/she is prepared to undertake the work outlined for the Master of Fine Arts program.
3. Three letters of reference attesting to the applicant's scholarship and ability to work independently.

**Degree Requirements**

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

The School of Visual Arts requires a minimum total of 60 credits at the 400, 500, or 800 level, with a minimum of 24 credits at the 500 level, for the Master of Fine Arts degree. Not more than 10 credits may be transferred from other accredited graduate institutions, subject to restrictions outlined in the **Transfer Courses** section of the Graduate Bulletin. Of the 60 credits required for graduation, candidates are expected to complete the following distribution of credits: 30 credits in a major area of concentration, 12 credits in art history and critical studies, 10 credits in related areas, and 8 credits in graduate seminar (ART 505).

**Additional M.F.A. Requirements**

In addition to course work, M.F.A. candidates must pass a candidacy review, which is usually held at the end of the second semester of study, submit an artist's statement, pass the M.F.A. comprehensive oral examination and produce an M.F.A. exhibition. The approval of the M.F.A. exhibition by a candidate’s committee represents the culminating experience of the program.

**Student Aid**
Graduate assistantships 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.

ART (ART) 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 Office of the Dean of the Graduate School, 211 Kern Building, University Park. 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: Eberly College of Science
Department or Instructional Area: Astronomy & Astrophysics

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

Current designation of graduate program: Astronomy & Astrophysics
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 in the culminating experience for the Masters degree

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

As soon as possible, preferably spring 2018

Submitted by Graduate Program Head

Michael Eracleous
Printed name
Signature
Date: 1/22/2018

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

Steven F. Heppelman
Printed name
Signature
Date: 2/1/2018

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

Aleksandra Slavkovic
Printed name
Signature
Date: 2/1/2018
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On Behalf of C. Andrew Cole  
Printed name  
Signature  
Date: 5/9/2018

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

On Behalf of M. Kathleen Heid  
Printed name  
Signature  
Date: 5/9/2018

Noted by Dean of the Graduate School:

On Behalf of Regina Vasilatos-Younken  
Printed name  
Signature  
Date: 5/9/2018
1. Context and Justification

The culminating experience for the Astronomy & Astrophysics Masters degree has been an essay or scholarly paper going back to the 1981-83 Graduate Degrees Programs Bulletin. In 2007 a program change proposal was submitted requesting a change in the language used in the Graduate Degrees Programs Bulletin to describe the culminating experience from “A nonthesis option is available for the MS Degree” to “…submission of suitable thesis.” The intent of this change, according to the author of the proposal was to give the students the option of either submitting a formal thesis or an essay or scholarly paper. However, no student in recent memory (since 1992 according to the recollection of four successive graduate program heads) has chosen to submit a thesis. Moreover the new language was ambiguous. As a result of the ambiguity in the language, when the requirement was entered into LionPath in the fall of 2017 it was translated to mean that a Masters thesis is required, which was not the intent of the Astronomy & Astrophysics faculty. In view of the above, this program change proposal requests the following

a) Establish unambiguously that the culminating experience for the Astronomy & Astrophysics Masters degree to an essay or scholarly paper (without the option for a student to submit a proper thesis).

b) Change the text in the Graduate Degrees Programs Bulletin so that the requirement is stated clearly and unambiguously. The new language is given below.

c) Enter an essay or scholarly paper as the culminating experience in LionPath

In addition to the above change, the Graduate Council Joint Curricular Committee has reviewed the Astronomy & Astrophysics section of the Graduate Degree Programs Bulletin and requested a number of changes to the text. In response to that request we wish to implement the suggested revisions. We take this opportunity to also revise a sentence in the first paragraph of the bulletin that is out of date. That sentence describes the centers and institutes with which our faculty are affiliated. These have changed names or have been otherwise re-organized.

2. Current and Revised Text in Graduate Bulletin

Here is the last paragraph of the section entitled Degree Requirements as it currently reads, with the phrase describing the culminating experience for the Masters program that we propose to change underlined.

“While all students are admitted into the Ph.D. program, occasionally students terminate with a M.S. degree. This requires completion of the Ph.D. course requirements (except the three topical seminars) with 3.00 grade point average, passage of the Candidacy Exam, and submission of a suitable thesis.”

Here is the proposed new text, with the change in the last sentence underlined.

“While all students are admitted into the Ph.D. program, occasionally students terminate with a M.S. degree. This requires completion of the Ph.D. course requirements (except the three topical seminars) with 3.00 grade point average, passage of the Candidacy Exam, and submission of an essay or scholarly paper.”

Here is the original text of the the last sentence of the first paragraph of the bulletin (under section heading “The Program”).
“Department faculty members participate in several university cross-disciplinary organizations: Astrobiology Research Center, Center for Astrostatistics, Center for Gravitational Physics and Geometry, and the Center for Gravitational Wave Physics.”

Here is the revised text

“Department faculty members participate in several university cross-disciplinary organizations: Astrobiology Research Center, Center for Astrostatistics, Center for Exoplanets and Habitable Worlds, and the Institute for Gravitation and the Cosmos.”

We attach a four-page document immediately after this memo with the request we received from the Graduate Council Joint Curricular Committee. That document describes the requested changes in great detail. We have followed that document to the letter therefore the attachment serves as a record of the changes we made. We also attach a three-page document with a copy of the Astronomy & Astrophysics section of the Graduate Degree Programs Bulletin, taken from http://bulletins.psu.edu/graduate/programs/A/GRAD%20ASTRO. In the latter document we show the text to be deleted as crossed-out text and the text to be added in red. This document includes hyperlinks which are underlines (and colored in in blue in the original text).

3. **Consultations With Departments Affected**
   The proposed changes apply only to students in the Masters program in Astronomy & Astrophysics. Only students admitted to the PhD program in Astronomy & Astrophysics are eligible for this Masters degree, therefore no students from other departments are affected.

4. **Consultation With the Office of Student Protections**
   There are is no change to SARI requirements for this program. Therefore, there was no need for a consultation with the office of research protections.
Date: March 20, 2018

To: Michael Eracleous

The action noted below has been taken on the graduate program proposal submitted by your department. If you have questions regarding this action, please contact Vicki Hewitt, Director of Graduate Education Administration.

**Program Change:** Astronomy and Astrophysics – change degree requirements for the M.S. (Eberly College of Science)

The Graduate Council Joint Curricular Committee reviewed the proposal and requests the following revisions:

- In the Bulletin listing, under Degrees Conferred, this program has an approved dual-title Ph.D. in Astrobiology. Add “Dual-title Ph.D. in Astronomy and Astrophysics and Astrobiology.”
- In the Bulletin listing, under Admission Requirements, add the following as the first paragraph: “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.”
- In the Bulletin listing, under Admission Requirements, first paragraph, delete the second and third sentences.
- In the Bulletin listing, under Admission Requirements, second paragraph, replace the last three sentences with: “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.” Note that the minimum score on the TOEFL paper-based test is listed here as a minimum of 590; current Graduate Council policy sets the minimum at 550, but graduate programs may set a higher minimum. This is also the case for the Internet-based test (here listed as a total of 96 with a 23 on the speaking section; the Graduate Council minimum is 80 with a 19 on the speaking section); the computer-based test is outdated and should be removed. If the program would like to keep these higher minimums, add the following sentence: “Applicants to the Astronomy and Astrophysics program must have a minimum TOEFL score of 590 on the paper-based test, or a total score of 96 with a 23 on the speaking section for the Internet-based test (iBT).”
- In the Bulletin listing, under Degree Requirements, add the following as the first paragraph: “Requirements listed here are in addition to requirements stated in the **DEGREE REQUIREMENTS** section of the Graduate Bulletin.”
- In the Bulletin listing, under Degree Requirements, first sentence, change “Course requirements for the Ph.D. consists of” to “A minimum of 37 credits is required for the Ph.D., including.”
- In the Bulletin listing, under Degree Requirements, first sentence, change “supervised teaching” to “supervised teaching; however the 1 credit for ASTRO 602 cannot be counted towards the
minimum credits required for the degree.”

- In the Bulletin listing, under Degree Requirements, clarify what one 400-level course may be substituted for. One of the 4 additional ASTRO 500-level courses, or one of the PHYS 500-level courses, or both?
- In the Bulletin listing, under Degree Requirements, clarify whether a GPA of 3.2 is required for all required courses, or just a subset? If just a subset, which courses are included in that subset?
- In the Bulletin listing, under Degree Requirements, second paragraph, first sentence, delete “with broad coverage.”
- In the Bulletin listing, under Degree Requirements, second paragraph, second sentence, delete the fifth sentence. This process is more appropriately described in the Student Handbook.
- In the Bulletin listing, under Degree Requirements, second paragraph, second sentence, last sentence, change “a thesis defense” to “a final oral examination (the dissertation defense).”
- In the Bulletin listing, under Degree Requirements, second paragraph, add the following as the last sentence: “To earn the Ph.D. degree, doctoral candidates must write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.”
- In the Bulletin listing, under Degree Requirements, third paragraph, delete the first sentence.
- In the Bulletin listing, under Degree Requirements, third paragraph, last sentence, 1) change “This requires” to “The Master of Science degree requires”; 2) change “three topical seminars” to “3 credits of ASTRO 589”; and 3) change “submission of a suitable thesis” to “submission of an acceptable scholarly paper, completed while enrolled in ASTRO XXX.” Fill in the specific course number students enroll in to complete the scholarly paper; programs often use 596 for this purpose.
- In the Bulletin listing, after the Degree Requirements section and before the Student Aid section, a section on the dual-title with Astrobiology must be added. The minimum requirements are stated below; please add additional information as needed:

**Dual-Title Ph.D. in Astronomy and Astrophysics and Astrobiology**

**Admissions Requirements**

Students must apply and be admitted to the graduate program in Astronomy and Astrophysics 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 Astrobiology dual-title program. Refer to the Admission Requirements section of the Astrobiology Bulletin page. Doctoral students must be admitted into the dual-title degree program in Astrobiology prior to taking the candidacy examination in their primary graduate program.

**Degree Requirements**

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. in Astronomy and Astrophysics, listed above. In addition, students must complete the degree requirements for the dual-title in Astrobiology, listed on the Astrobiology Bulletin page.
The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Astronomy and Astrophysics and must include at least one Graduate Faculty member from the Astrobiology 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 Astronomy and Astrophysics and Astrobiology. 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 Astronomy and Astrophysics and Astrobiology dual-title Ph.D. student must include at least one member of the Astrobiology 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 Astrobiology, the member of the committee representing Astrobiology must be appointed as co-chair. The Astrobiology 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 Astronomy and Astrophysics and Astrobiology. 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.”

- In the Bulletin listing, under Student Aid, add the following as the first paragraph: “Graduate assistantships available to 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.”
- In the Bulletin listing, under Student Aid, delete the last sentence.
- In the Bulletin listing, under Courses, change “500 to 599” to “500 to 699.”

The proposal is tentatively approved by the Graduate Council Joint Curricular Committee pending receipt of the revised proposal containing the requested edits. Please submit a cover memo outlining the responses, with page notations, and specifically note in the revised document any added/changed language or clarifications (i.e., track changes).

Please send the requested documents electronically to the Office of the Dean at L-GRAD-DEANS-OFFICE@lists.psu.edu.

Important dates related to the Graduate Council curricular review process may be found on the Graduate School website.

c: College Representative, Subcommittee on New and Revised Programs and Courses
Director of Graduate Education Administration
Astronomy and Astrophysics (ASTRO)

Program Home Page

DONALD P. SCHNEIDER, Head of the Department of Astronomy and Astrophysics
525 Davey Laboratory
814–865–0418

Degrees Conferred:

Ph.D., M.S., Dual-title Ph.D. in Astronomy and Astrophysics and Astrobiology.

The Graduate Faculty

The Program

The graduate program in Astronomy and Astrophysics prepares students for careers in astronomy, space science and education. Graduate instruction and research opportunities are available in theoretical, observational, and instrumental astronomy and astrophysics. Currently active areas of theoretical research include high-energy astrophysics (including theory of neutron stars, black holes, and gamma ray bursts), relativity and cosmology, stellar dynamics and planet formation, and computational methodology. Observational areas include spectroscopic and photometric observations of high-redshift quasars, galaxies and the intergalactic medium; gamma-ray bursts; X-ray and visible light studies of quasars, starburst and other active galaxies; visible light studies of nearby galaxies and their stellar populations; infrared study of brown dwarfs and protoplanetary disks; spectroscopy and modeling of binary, magnetically active, pre– and post–main sequence stars; spectroscopic searches for planetary systems. Instrumental areas include: development of X-ray telescopes and detectors; and high-precision visible and near-infrared light spectrographs. Department faculty members participate in several university cross-disciplinary organizations: Astrobiology Research Center, Center for Astrostatistics, Center for Gravitational Physics and Geometry, and the Center for Particle and Gravitational-Wave Physics Center for Exoplanets and Habitable Worlds, and the Institute for Gravitation and the Cosmos.

The department played a seminal role in and leads many science investigations using two NASA-launched satellites, the Chandra X-ray Observatory and the Swift panchromatic gamma-ray burst mission, and the innovative 9-meter Hobby-Eberly Telescope located at the McDonald Observatory in Texas. Faculty and students also observe with other space-based observatories (GALEX, Hubble Space Telescope, Spitzer Space Telescope, XMM–Newton) and ground-based telescopes (Gemini and other national facilities, Magellan, Keck, South Africa Large Telescope, Very Large Telescopes). Physics faculty members closely associated with the Department are involved in particle and gravitational wave observations using the Auger, AMANDA, Ice Cube, and LIGO instruments. The Department has extensive computing facilities, and research is also conducted with university and national supercomputing resources.

Graduate students also have ample opportunity to acquire experience in undergraduate teaching and public outreach.

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.

Scores from the Graduate Record Examinations (GRE), including the Physics test, are required for admission. In addition, students coming from non-English speaking undergraduate institutions must submit scores from the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) examination. Requirements listed here are in addition to general Graduate School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin.
Normally, students admitted to the program are required to have a bachelor's degree in physics and/or astronomy with a grade-point average of at least 3.0 in their junior/senior courses in physics, astronomy, math, and related subjects. Typical GRE scores for entering students are 720 or more on the general test, and 680 or more on the Physics test. International applicants must take and submit scores for the TOEFL (Test of English as a Foreign Language) or the IELTS (International English Language Testing System). The minimum acceptable score for the TOEFL is 590 for the paper-based test, 243 for the computer-based test, or a total score of 96 with a 23 on the speaking section for the Internet-based test. The minimum composite score for the IELTS is 6.5. 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. Applicants to the Astronomy and Astrophysics program must have a minimum TOEFL score of 590 on the paper-based test, or a total score of 96 with a 23 on the speaking section for the Internet-based test (iBT).

Degree Requirements

In the Bulletin listing, under Degree Requirements, add the following as the first paragraph: “Requirements listed here are in addition to requirements stated in the Degree Requirements section of the Graduate Bulletin.”

Course requirements for the Ph.D. consists of A minimum of 37 credits are required for the Ph.D., including 30 credits of 3-credit courses, 3 credits of ASTRO 596 for directed research in the second year, 3 credits of ASTRO 589 Seminars in current research, 1 credit of ASTRO 590 Colloquium, and 1 credit of ASTRO 602 for supervised teaching; however the 1 credit for ASTRO 602 cannot be counted towards the minimum credits required for the degree. The ten 3-credit courses must include ASTRO 501, ASTRO 502, at least four additional ASTRO 500-level courses, and at least two PHYS 500-level courses. One 400-level class may be substituted for a course that is not one of the ASTRO 500-level courses. A GPA of 3.2 in these the ten 3-credit courses is required.

The Candidacy Examination is an oral examination with broad coverage of covering any area of astronomy. Students who fail the Examination may make a second attempt. At the Comprehensive Examination, the student presents a significant body of original research conducted at Penn State. This Examination tests the student's mastery of the chosen field of research. The student prepares an extended written report and oral presentation, and answers questions on the research and closely related areas. The Comprehensive Exam can be passed, failed with option retake, or failed followed by dismissal from the Ph.D. program. Graduation requires the completion of a dissertation of original research and a thesis defense a final oral examination (the dissertation defense) before the Doctoral Committee. To earn the Ph.D. degree, doctoral candidates must write a dissertation that is accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

While all students are admitted into the Ph.D. program, occasionally students terminate with a M.S. degree. This The Master of Science degree requires completion of the Ph.D. course requirements (except the three topical seminars 3 credits of ASTRO 589) with 3.00 grade point average, passage of the Candidacy Exam, and submission of a suitable thesis an acceptable scholarly paper, completed while enrolled in ASTRO 596.

Dual-Title Ph.D. in Astronomy and Astrophysics and Astrobiology

Admissions Requirements

Students must apply and be admitted to the graduate program in Astronomy and Astrophysics 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 Astrobiology dual-title program. Refer to the Admission Requirements section of the Astrobiology Bulletin page. Doctoral students must be admitted into the dual-title degree program in Astrobiology prior to taking the candidity examination in their primary graduate program.

Degree Requirements

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. in Astronomy and Astrophysics, listed above. In addition, students must complete the degree requirements for the dual-title in Astrobiology, listed on the Astrobiology Bulletin page.
The candidacy examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Astronomy and Astrophysics and must include at least one Graduate Faculty member from the Astrobiology 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 Astronomy and Astrophysics and Astrobiology. 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 Astronomy and Astrophysics and Astrobiology dual-title Ph.D. student must include at least one member of the Astrobiology 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 Astrobiology, the member of the committee representing Astrobiology must be appointed as co-chair. The Astrobiology 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 Astronomy and Astrophysics and Astrobiology. 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.

**Student Aid**

Graduate assistantships available to 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.

Graduate Teaching Assistantships, externally funded graduate Research Assistantships, and/or University fellowships are typically provided to student admitted and continuing in good standing. Many students also apply for externally funded fellowships. University sources of funding are described in the [STUDENT AID](#) section of the Graduate Bulletin.

**Courses**

Graduate courses carry numbers from 500 to 599 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.

**ASTRONOMY AND ASTROPHYSICS (ASTRO) course list**

DATE LAST REVIEWED BY GRADUATE SCHOOL: 5/25/04

Last Revised by the Department: Spring Semester 2008

Blue Sheet Item #: 36–04-064

Review Date: 1/15/08

Faculty linked: 5/27/14
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 Communications
Department or Instructional Area: Joint Degree Program Between the College of Communications and Penn State Law

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:
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
Matthew McAllister
Printed name
Signature
Date: 9/15/16

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:
Michael Schmierbach
Printed name
Signature
Date: 9/15/16

Approved by College/School Dean/Chancellor (or Designee):
Ford Risley
Printed name
Signature
Date: 7/15/16
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<td>On Behalf of C. Andrew Cole</td>
<td>Yudhi Hewitt</td>
<td>519/2018</td>
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<td>on behalf of regina vasilatos-younken</td>
<td>yudhi Hewitt</td>
<td>519/2018</td>
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The Donald P. Bellisario College of Communications (COMM) and Penn State Law (PSL) propose to offer a joint degree program leading to a Juris Doctor degree (J.D.) from PSL and a Master of Arts (M.A.) in Media Studies from COMM.

With the growing importance of legal and policy issues in the media and communication industries, intensified knowledge of legal issues in those industries is increasingly important. In combining the J.D. in the School of Law with an M.A. in Media Studies, enrolled students would earn the two degrees in less time than taking them separately, and would integrate the credentials of the two degrees as well as the research skills and media-specific knowledge in the College of Communications with the legal expertise offered by a J.D. in the Penn State Law.

The program will credential students who wish to pursue legal careers in media law or in areas of law in which media and/or communication industries are a significant component in a field related to legal aspects of the media and communications industries.

PSL offers a rigorous J.D. degree program which prepares students for practice as licensed attorneys, a credential that is highly valuable for students interested in executive level administration positions in the media and communications industries. The law curriculum includes courses with direct relevance to media, including First Amendment-Free Speech, Consumer Protection, Multinational Corporations, and Telecommunications Law and Regulation.

We do not anticipate that any significant dedication of additional resources will be required, or that additional funding should be required. To minimize the time required to complete the joint degree program from 10 semesters (5 years) to 8 semesters (4 years), PSL will accept the transfer of twelve (12) 500-level credits from the Media Studies program's curriculum as elective credit towards the M.A. in lieu of four 3-credit elective courses as determined by the student and their advisers. Specific law course selection for transfer to the M.A. will be dependent on course offerings available at PSL. Note: The J.D. seminar requirement and the Media Studies thesis requirement must be fulfilled separately, using unique research topics.

Apart from the required first year curriculum, and required upper level courses, and other applicable law school or law school accreditation rules for timely completion of a J.D. degree, this proposal does not specify a required sequence of courses or a required time frame in which to complete the joint degree to preserve flexibility while avoiding any representation that students can complete the program in a specified period of time. The “typical” joint J.D./M.A. degree will be completed in a four-year period.

No new courses are anticipated to be added to the PSL J.D. program or the COMM M.A. program for this joint degree program.
PROGRAM PROPOSAL FOR THE JOINT DEGREE PROGRAM BETWEEN

DONALD P. BELLISARIO COLLEGE OF COMMUNICATIONS MEDIA STUDIES AND PENN STATE LAW

FOR SUBMISSION TO

GRADUATE COUNCIL COMMITTEE ON PROGRAMS AND COURSES

SUBCOMMITTEE ON NEW AND REVISED PROGRAMS AND COURSES
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I. Proposed Joint Degree Program and Complete Program Statement

Penn State Law (PSL) and the Donald P. Bellisario College of Communications (COMM) to offer a joint degree program leading to a Juris Doctor degree (J.D.) from PSL and a Master of Arts (M.A.) in Media Studies from COMM. A description of the proposed joint degree program is attached as Appendix A.

A. Objectives of the program

How does the proposal meet the educational objectives and/or strengthen the existing programs of the college(s) and the University?

The joint degree program will strengthen PSL and COMM by: (1) attracting quality MA and JD applicants who are interested in media-related issues, including media policy, intellectual property, and First Amendment concerns, (2) enhance ties between the Media Studies faculty who specialize in law and policy issues and Penn State Law.

What may students expect to accomplish through the new program?

The program will credential students who wish to pursue legal careers in media law or in areas of law in which media are a significant component in a field related to legal aspects of the media.

Does the joint degree program duplicate other degree programs within the department/college/or university?

The proposed joint degree program does not duplicate other degree programs in PSL, COMM or the rest of the university.

B. List of New Courses

No new courses are anticipated to be added to the PSL J.D. program or the COMM M.A. in Media Studies for this joint degree program.

C. Program Statement

A complete description of the joint degree program is provided in Appendix A. Students in the program will spend six semesters in PSL and two semesters in COMM. The Joint Degree Program Faculty Adviser in COMM and the PSL Associate Dean for Academic Affairs are designated program advisers and liaisons between the programs. Students will need to work with these designated program advisers and their individual faculty advisers from both programs to build an individual program.

To minimize the time required to complete the joint degree program from 10 semesters (5 years) to 8 semesters (4 years), PSL will accept the transfer of twelve (12) 500-level credits from the Media Studies M.A. program toward the J.D. degree. Similarly, COMM will
accept the transfer of twelve (12) credits from the PSL curriculum towards the M.A. in Media Studies in lieu of four Media Studies M.A. electives. Specific law course selection for transfer to the Media Studies M.A. will be dependent on course offerings available at PSL.

Apart from the required first-year curriculum, and required upper level courses, and other applicable law school or law school accreditation rules for timely completion of a J.D. degree, this proposal does not specify a required sequence of courses or a required time frame in which to complete the joint degree to preserve flexibility while avoiding any representation that students can complete the program in a specified period of time. The “typical” joint J.D./M.A. in Media Studies degree will be completed in a four-year period.

**D. Admission Requirements**

Students applying to the joint degree program must be admitted separately into both PSL and COMM. 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 Media Studies graduate program are listed above. Students must first be admitted to the law school and must complete the required first-year curriculum in the J.D. program before commencing the Media Studies M.A. component. Application to the M.A. program must take place through the Graduate School Application. Formal admission to the M.A. program would normally take place during the student’s first year of law, but COMM may extend admission to the M.A. program at the time an applicant applies to PSL particularly where an applicant’s law school choice depends upon admission to the J.D./M.A. joint degree program. At the student’s request, the LSAT may replace the GRE for joint degree admission purposes.

**E. Justification for the Program**

With the growing importance of legal and policy issues in media industries, intensified knowledge of legal issues in those industries is increasingly important. In combining the PSL J.D. with an M.A. in Media Studies, enrolled students would earn the two degrees in less time than taking them separately, and would integrate the credentials of the two degrees as well as the research skills and media-specific knowledge in the College of Communications with the legal expertise offered by a Penn State Law J.D.

**F. Justification for Degree Titles**

“Master of Arts” is the Graduate Council-approved title for the Media Studies master’s degree. The “Juris Doctorate” is the traditional and exclusively used degree title for the primary American law degree.

**G. Accreditation/Licensure in the Field**

PSL is approved as a law school by the American Bar Association Council of the Section on Legal Education and Admissions to the Bar. As such, J.D. graduates from PSL will be
eligible to become licensed to practice law in U.S jurisdictions that require completion of a J.D. from an ABA approved law school. COMM is nationally, the largest program of its kind to be accredited by the Accrediting Council for Education in Journalism and Mass Communications (ACEJMC).

**H. Evidence of Approval by the Departments Involved**

Letters of approval from the Dean of Penn State Law and the Dean of the Bellisario College of Communications are attached as Appendix D. Additional emails of support from Rob Frieden, Pioneers Chair and Professor of Telecommunications and Law, Matt Jackson, Head of the Department of Telecommunications/Associate Professor, and Cynthia Simmons, Senior Lecturer in the Department of Journalism, are also attached in Appendix D.
Appendix A

PROPOSED JOINT DEGREE PROGRAM BETWEEN
THE BELLISARIO COLLEGE OF COMMUNICATIONS (M.A.
IN MEDIA STUDIES) AND PENN STATE LAW (J.D.)
PROPOSED JOINT DEGREE PROGRAM BETWEEN
BELLISARIO COLLEGE OF COMMUNICATIONS (M.A. IN MEDIA STUDIES)
AND PENN STATE LAW (J.D.)

1. Joint Degree Program

Penn State Law (PSL) and the Donald P. Bellisario College of Communications (COMM) to offer a joint degree program leading to a Juris Doctor degree (J.D.) from PSL and a Master of Arts (M.A.) in Media Studies from COMM. A description of the proposed joint degree program is attached as Appendix A.

2. Admission

Students applying to the joint degree program must be admitted separately into both PSL and COMM. 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 Media Studies graduate program are listed above. Students must first be admitted to the law school and must complete the required first-year curriculum in the J.D. program before commencing the Media Studies M.A. component. Application to the M.A. program must take place through the Graduate School Application. Formal admission to the M.A. program would normally take place during the student’s first year of law, but COMM may extend admission to the M.A. program at the time an applicant applies to PSL particularly where an applicant’s law school choice depends upon admission to the J.D./M.A. joint degree program. At the student’s request, the LSAT may replace the GRE for joint degree admission purposes.

4. Residency

A typical J.D./M.A. joint degree student will be in residence at PSL for six semesters and at COMM for two semesters.

5. Liaisons

The Joint Degree Program Faculty Adviser in COMM and the PSL Associate Dean for Academic Affairs are designated program advisers and liaisons between the programs. Students will need to work with these designated program advisers and their individual faculty advisers from both programs to build an individual program.

6. Inter-Program Transfer of Credits

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. degree are listed in the Degree Requirements section above.
A. PSL J.D.

A maximum of twelve (12) credits of 500-level Media Studies M.A. course work may be transferred 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 COMM courses may qualify for credit toward the PSL J.D.:

COMM 504 – Seminar in the History of Mass Communication (no description available)

COMM 505 – International Communication Problems – Legal and communications problems of the international flow of news and opinion; international press codes.

COMM 506 – Research Methods in Communications – The scientific method; survey of basic concepts of theoretical and empirical research; variety of methodology; criteria for adequate research.

COMM 511 – Mass Communications Research Methods II – Problems of bibliographical research; evaluation of sources and materials in mass communications history, biography, structure, ethics, and other areas.

COMM 513 – Constitutional Problems of the News Media (3) Problems involving conflict between guarantees of press freedom in the First and Fourteenth Amendments and rights and privileges of others.

COMM 516 – Introduction to Data Analysis in Communications (3) To understand and be able to use data analysis techniques common to research in communications.

COMM 517 – Psychological Aspects of Communication Technology (3) Investigation of psychological aspects of human-computer interaction (HCI) and computer-mediated communication (CMC).

COMM 518 – Media Effects (3) Advanced study of the effects of media messages and technologies via theories and empirical evidence pertaining to processes of effects.

COMM 580 – Seminar in Telecommunications (3) Study of the historical and contemporary issues and problems in telecommunications.

COMM 582 – Ethics and Emerging Communications Technology (3) Identification and analysis of ethical issues raised by electronic communications technologies.

COMM 585 – Media & Telecommunications Industries (3) Study the structure and performance of media, telecommunications and information industries applying principles and ideas from microeconomics, finance and communications.
COMM 587 – Internet Law & Policy (3) Examination of legal, policy and business developments in Internet-mediated communications emphasizing the impact on regulatory and economic models.

B. COMM M.A. in Media Studies

A maximum of twelve (12) credits of PSL course work will be counted for credit for the minimum requirements for a master’s degree. These courses must be approved by the student’s advisory committee and Joint Degree Program Faculty Adviser in COMM, normally during the Program Proposal Meeting.

The J.D. seminar requirement and the Media Studies thesis requirement must be fulfilled separately, using unique research topics.

7. Course Sequencing

The sequence of courses will be determined by the student and their adviser(s). However, students must successfully complete the first-year curriculum with PSL before beginning the M.A. Media Studies program. In compliance with ABA Standards and Rules law students may not enroll for more than 17 credits per semester at Penn State as a law student; the maximum credit load for graduate students is 15 credits per semester. It is expected that most joint degree students will complete the first two semesters of the M.A. consecutively in either the first or second year after completion of the first-year curriculum with PSL.

8. Recommended Program of Study and Advising

All students in the program will have two advisers, one from PSL and one from COMM; the adviser from COMM may be any member of the Graduate Faculty in the College. Periodic interaction between the two advisers will be encouraged. A program of study will be developed for each student, taking into account the fact that some courses at both locations are offered on a rotating or intermittent basis. Many courses are offered every year but some are offered every two or three years. Advisers will have available a list of projected relevant courses or educational experiences in order to work with the student on an individualized program of study. The standard committee structure will apply to the COMM M.A. program.

9. Tuition

Students will be charged the applicable PSL tuition to cover the J.D. program and the applicable graduate tuition to cover the M.A. 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 in the M.A. program. 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.

10. Financial Aid and Assistantships

Decisions on financial aid and assistantships will be made by each school according to that school’s procedures. Students on graduate assistantships must adhere to the course load policy listed in the Bulletin. Information on Graduate Assistantships

11. Fulfillment of Degree Requirements and Graduation

A student in the program may complete the requirements for one of the degrees and be awarded that degree prior to completing all the requirements for the other degree; provided, however, that the student shall have successfully completed at least two semesters of work towards the other degree. All courses in one program that will count towards meeting the requirements of the other must be completed before the awarding of either degree. Students will be required to fulfill all requirements for each degree in order to be awarded that degree, subject to the inter-program transfer of credits.

Important Note: If the joint degree student is using law (900-level) credits toward the graduate degree during their last semester of enrollment, they should be prepared to extend their graduate degree graduation to a subsequent semester (the following semester at a minimum). This is due to the graduate degree approval deadline falling before the law (900-level) course grading processes are complete.
Appendix B

COLLEGE OF COMMUNICATIONS
MEDIA STUDIES (M.A.)
AND PENN STATE LAW (J.D.)
JOINT DEGREE COURSE SEQUENCING
DONALD P. BELLISARIO COLLEGE OF COMMUNICATIONS MEDIA STUDIES (M.A.) AND PENN STATE LAW (J.D.)
JOINT DEGREE COURSE SEQUENCING

Year 1:

PSL J.D. Required First-Year Curriculum (32 crs)

Year 2:

PSL J.D. Upper Level Coursework: Student should consider taking upper-level J.D. requirements.

PSL does not have a required number of credits for the second and third year of the J.D. program. Students are required to complete 88 credits to earn the J.D. Twelve (12) credits is full-time. J.D. students may enroll in a maximum of 17 credits per semester. J.D. students will complete a minimum of 56 credits their second and third year.

COMM 515, MA Proseminar (3 credits), Fall
COMM 590, Colloquium (1 credit), Fall
COMM 506, Research Methods in Communications, Fall, OR COMM 511 (3 credits), Research Methods in Communications II, Spring (Methods requirement)

Additional approved 400-level or any 500-level COMM electives (3 credits)

Year 3:

J.D. Upper Level Coursework: Student should consider taking upper-level J.D. requirements.

PSL does not have a required number of credits for the second and third year of the J.D. program. Students are required to complete 88 credits to earn the J.D. Twelve (12) credits is full-time. J.D. students may enroll in a maximum of 17 credits per semester. J.D. students will complete a minimum of 56 credits their second and third year.

Additional approved 400-level or any 500-level COMM electives (6 credits)

Year 4:

J.D. Upper Level Coursework: If not already satisfied, student must successfully complete the upper-level J.D. requirements.
PSL does not have a required number of credits for the second and third year of the J.D. degree program. Students are required to complete 88 credits to earn the J.D. Twelve (12) credits is full-time. J.D. students may enroll in a maximum of 17 credits per semester. J.D. students will complete a minimum of 56 credits their second and third year. Additional approved 400-level or any 500-level COMM electives (3 credits) COMM 600, Thesis Research (6 credits)

The J.D. seminar requirement and the Media Studies thesis requirement must be fulfilled separately, using unique research topics.

Total credits required for the PSL J.D. degree is 88.

Total credits required for the COMM M.A. Media Studies degree is 36, including common 12 hours.

Important Note: If the joint degree student is using law (900-level) credits toward the graduate degree during their last semester of enrollment, they should be prepared to extend their graduate degree graduation to a subsequent semester (the following semester at a minimum). This is due to the graduate degree approval deadline falling before the law (900-level) course grading processes are complete.
Appendix C

Bulletin Version: Text for Addition to the Bulletin
Description of the Media Studies M.A. Degree
Joint Degree Offering with Penn State Law

Degrees Conferred:
J.D. (Penn State Law)
M.A. (College of Communications, Media Studies)

Joint Degree Program: Penn State Law (PSL) and the Donald P. Bellisario College of Communications (COMM) offer a joint degree program leading to a Juris Doctor (J.D.) and a Master of Arts (M.A.) in Media Studies.

Admission Requirements

Students applying to the joint degree program must be admitted separately into both PSL and COMM. 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 Media Studies graduate program are listed above. Students must first be admitted to the law school and must complete the required first-year curriculum in the J.D. program before commencing the Media Studies M.A. component. Application to the M.A. program must take place through the Graduate School Application. Formal admission to the M.A. program would normally take place during the student’s first year of law, but COMM may extend admission to the M.A. program at the time an applicant applies to PSL particularly where an applicant’s law school choice depends upon admission to the J.D./M.A. joint degree program. At the student’s request, the LSAT may replace the GRE for joint degree admission purposes.

Inter Program Transfer of Credits

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. degree are listed in the Degree Requirements section above.

Penn State Law: A maximum of twelve (12) 500-level credits for Media Studies M.A. course work may be transferred 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 COMM courses may qualify for credit toward the PSL J.D.: COMM 504, COMM 505, COMM 506, COMM 511, COMM 513, COMM 516, COMM 517, COMM 518, COMM 580, COMM 582, COMM 585, and COMM 587.

Donald P. Bellisario College of Communication: A maximum of twelve (12) credits of PSL course work will be counted for credit for the minimum requirements for a master’s degree. These courses must be approved by the student’s advisory committee and Joint Degree Program Faculty Adviser in COMM, normally during the Program Proposal Meeting.
The J.D. seminar requirement and the Media Studies thesis requirement must be fulfilled separately, using unique research topics.

**Course Sequencing:** The sequence of courses will be determined by the student and their adviser(s). However, students must successfully complete the first-year curriculum with PSL before beginning the M.A. Media Studies program. In compliance with ABA Standards and Rules law students may not enroll for more than 17 credits per semester at Penn State as a law student; the maximum credit load for graduate students is 15 credits per semester. It is expected that most joint degree students will complete the first two semesters of the M.A. consecutively in either the first or second year after completion of the first-year curriculum with the Law School.

**Recommended Program of Study and Advising:** All students in the program will have two advisers, one from PSL and one from COMM; the adviser from COMM may be any member of the Graduate Faculty in the College. Periodic interaction between the two advisers will be encouraged. A program of study is developed for each student, taking into account the fact that some courses at both locations are offered on a rotating or intermittent basis. Many courses are offered every year but some are offered every two or three years. Advisers will have available a list of projected relevant courses or educational experiences in order to work with the student on an individualized program of study. The standard committee structure will apply to the COMM M.A. program.

**Tuition:** Students will be charged the applicable PSL tuition to cover the J.D. program and the applicable graduate tuition to cover the M.A. 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 in the M.A. program. 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. Students on graduate assistantships must adhere to the course load policy listed in the Bulletin. Information on Graduate Assistantships

**Fulfillment of Degree Requirements and Graduation:** A student in the program may complete the requirements for one of the degrees and be awarded that degree prior to completing all the requirements for the other degree; provided, however, that the student shall have successfully completed at least two semesters of work towards the other degree. All courses in one program that will count towards meeting the requirements of the other must be completed before the awarding of either degree. Students will be required to fulfill all requirements for each degree in order to be awarded that degree, subject to the inter-program transfer of credits. If students accepted into the joint degree program...
program are unable to complete the J.D. degree, they are still eligible to receive the M.A. degree if all M.A. degree requirements have been satisfied.

Important Note: If the joint degree student is using law (900-level) credits toward the graduate degree during their last semester of enrollment, they should be prepared to extend their graduate degree graduation to a subsequent semester (the following semester at a minimum). This is due to the graduate degree approval deadline falling before the law (900-level) course grading processes are complete.
Appendix D

Original Written Responses from Departments Involved and Others That Were Consulted
To: Members of the Graduate Council  
Regina Vasilatos-Younken, Dean, The Graduate School

From: James W. Houck, Interim Dean, Penn State Law

Date: March 31, 2016

RE: Proposed Joint Degree Program between Penn State Law and the College of Communications

On behalf of Penn State Law, I enthusiastically support the joint J.D./M.A. Media Studies degree program and join Dean Hardin in her assessment of the significantly enhanced scholarship opportunities this joint degree program will provide to future Penn State Law and College of Communications students, as well as, outgrowths important to the Commonwealth, both in law and communication policy.

More broadly, the J.D./M.A. Media Studies joint degree demonstrates the creative interdisciplinary opportunities available between Penn State Law and Graduate School departments located together in University Park. The collective input of faculty engaged in First Amendment and Information Policy will strengthen the development of scholarly focus and discipline for future policy challenges.

I firmly believe that this joint degree program will attract outstanding students interested in a program that will offer such a broad spectrum of knowledge for solving the ever-evolving challenges of a constantly broadening communications world. I strongly endorse this joint program proposal and look forward to seeing it prosper.
TO: Members of the Graduate Council
    Regina Vasilatos-Younken, Dean, The Graduate School

FR: Marie Hardin, Dean

DT: Feb. 19, 2016

RE: Proposed Joint Degree Program between the College of Communications and Penn State Law

Please accept my endorsement—without reservation—of the proposed joint degree program between the College of Communications and Penn State Law. I am thrilled to see this proposal developed. Faculty members in both colleges already cross Park Avenue to teach and collaborate on interdisciplinary projects, and development of this degree is a natural outgrowth of that and of the need to provide a degree program that blends our collective strengths for the benefit of students.

The College of Communications brings significant resources to this effort: We have a number of faculty members engaged in First Amendment and other law-related scholarship. Two special enterprises in the College—the Institute for Information Policy and the Pennsylvania Center for the First Amendment—both focus on issues of law and policy as they relate to communications.

I have no doubt that this degree program will provide a high-quality education for the students it will attract as they work with outstanding scholars from Penn State Law and from the College of Communications. It has my strongest endorsement, and I look forward to seeing this program thrive.
University Faculty Senate
The Pennsylvania State University
101 Korn Graduate Building
University Park, PA 16802

February 3, 2016

To the Faculty Senate:

Please consider this letter my strong endorsement of the joint J.D./M.A. degree program proposed by the Law School and the College of Communications. This collaborative endeavor will accord students the opportunity to acquire both a Juris Doctor degree (J.D.) and a Master of Arts (M.A.) in Media Studies. It will provide additional evidence of Penn State's commitment to interdisciplinary studies and the timely introduction of complementary courses of study that students can undertake concurrently.

This joint degree program will offer graduate students the ability to blend the study of law and communications, a combination that can enhance student preparation for a growing number of careers that require expertise in both fields. I believe this program will enhance the attractiveness of both the Law School and the College of Communications to prospective applicants. Additionally, the joint degree can improve the number and quality of applicants.

I am pleased to support the approval of this joint degree program with great enthusiasm.

Sincerely,

Rob Frieden, Pioneers Chair and Professor of
Telecommunications and Law
February 3, 2016

University Faculty Senate
101 Kern Graduate Building
The Pennsylvania State University
University Park PA 16802

To the Penn State Faculty Senate,

Please accept this letter enthusiastically supporting the proposed J.D./M.A. program jointly proposed by the Penn State School of Law and the College of Communications. The joint degree program will prepare students for a variety of careers that require a knowledge of both law and communications. We now live in a globally-connected digital world where telecommunications, information networks and media play a crucial role in politics, culture and the economy. A comprehensive understanding of both law and communications is essential for policymakers, industry leaders and scholars. We believe this joint program will attract top applicants to the university and take advantage of the scholarly expertise already present in both faculties. Many of our peer institutions have similar programs, though most do not have the breadth and depth of internationally renowned faculty present here at Penn State. I highly recommend approval of this joint J.D./M.A. program.

Very sincerely,

Matt Jackson
Feb. 15, 20016

Dear Committee Members,

I highly recommend approval of the Joint MA in Media Studies and Juris Doctorate between the College of Communications and Penn State Law.

I was just at an American Bar Association Forum on Communications Law conference where the convener of a panel on social media confessed that he did not use Twitter or Facebook. There was some laughing and teasing in the room, but I think most of the attorneys present agreed that digital dinosaurs don't have the understanding of new media necessary to create smart law for this new era in communication technology.

We need digital natives—people who grew up using social media and who understand the mindset of this generation—to advocate in court and before the legislative and regulatory bodies that set policy that governs communication. To put it biblically, we must not put new wine into old skins. The media are in a period of rapid evolution. The legal parameters in which that development happens must not be constrained by the mindset of the print generation that grew up with gatekeepers at every information portal.

The College of Communications and Penn State Law are ideal partners to produce these digital native media attorneys. I have taught in both. Penn State Law is remarkable among law schools for its collegial faculty and student body, the high level of creativity among students and the lack of rigidity that, sadly, characterizes legal education at many law schools. Katz Hall is a wonder of communications technology. Many of the classrooms are set up for distance teaching. It is easy to bring in guest speakers and to use digital media in these classrooms. The College of Communications has a diverse and highly accomplished faculty. From media effects to entrepreneurial journalism in digital media, we have people who study and train practitioners in the fields where these digital-native attorneys are needed.

I highly recommend approval of the proposal and look forward to seeing the expansion of First Amendment rights its graduates will pioneer.

Sincerely,

[Signature]

Clifty Simmons, J.D.
Degree Conferred:
- M.A.
- Integrated B.A/M.A. in Media Studies
- Joint Degree Offering with Penn State Law (J.D./M.A.).

The Graduate Faculty

The Program
The master's degree in Media Studies is an academic program that involves students in the systematic study of media. The objective of the course of study is to enable students to achieve a comprehensive understanding of the systems, networks, cultures, and information associated with media. The program prepares students for doctoral study in communications and for professional positions in business and government requiring a comprehensive understanding of the historical, social, and political implications of the media. This program helps prepare students to organize research projects, critically evaluate research reports, and directly influence media practices by the application of research findings.

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. Students with a 3.00 junior/senior grade-point average are eligible for admission. Three letters of recommendation are required. Applicants must also submit an autobiographical statement of about 1,000 words indicating the nature of the applicant's interest in Media Studies, reasons for wanting to do graduate work, and future aspirations relating to the field of mass communications. Experience shows that most applicants hold a bachelor's degree in a field of the liberal arts or the social and behavioral sciences, including journalism and mass communications. However, this does not preclude applicants with other backgrounds, abilities, and interests such as those whose undergraduate training may have been in a scientific or technical field. In every case, the applicant should explain in the autobiographical statement how his or her undergraduate education relates to the decision to seek admission to graduate study in mass communications.
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. Applicants to the Media Studies program must have a score of 24 or higher on the speaking section of the TOEFL Internet-based test.

Program of Study
The M.A. program seeks to integrate two areas of inquiry and analysis. The "Critical Studies" area centers on the expressive, creative, and linguistic dimensions of media as cultural processes. The "Political Studies" area focuses primarily on the political and economic dimensions of national and international communications systems and processes. The student is encouraged to combine courses from these and possibly other areas into a coherent package of course work culminating in either a thesis or a master's paper.

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

A minimum of 36 credits is required for the completion of the M.A. degree. Students in the thesis track must complete at least 18 credits at the 500 or 600 level, and the remaining credits may be at the 400 or 800 level. Students in the non-thesis track must complete 18 credits at the 500 level, and the remaining credits may be at the 400 or 800 level. There are 7 credits required in the following core courses: either COMM 506 or 511 (3 cr.), COMM 515 (3 cr.), and COMM 590 (1 cr.). If the student chooses to write a thesis, at least 6 credits in thesis research (COMM 600 or 610) must be taken. Students in the non-thesis track must write a satisfactory master’s paper, while enrolled in COMM 596 (3 cr.). Additional courses that will count as electives towards this degree can be chosen from a list of approved elective courses maintained by the graduate program office. Course work offered by departments outside the College of Communications may be scheduled as part of the student’s program with prior approval of the student’s academic committee. In some cases, students may be required to take additional credits in order to make up deficiencies in undergraduate course work.

Students are required to schedule three separate, formal meetings with their advisers and the academic committees for (1) discussion and approval of the general program plan, (2) the thesis or master’s paper proposal, and (3) the defense of the thesis or paper. In most cases, satisfactory completion of course work and thesis requires two years. A thesis must be accepted by the advisers and/or committee members, the head of the graduate program, and the Graduate School, and the student must pass a thesis defense. A master’s paper must be accepted by the advisers, committee members and the graduate programs chair, and the students must pass a master’s paper defense.

Integrated B.A/M.A. in Media Studies
The Donald P. Bellisario College of Communications offers academically qualified students enrolled in a Bachelor of Arts program in the College of Communications the opportunity to
earn both the B.A and the M.A. upon completion of five years of study. The Integrated Undergraduate-Graduate Program in Media Studies facilitates the advanced study of communications research and thesis development through a carefully organized selection of undergraduate courses, graduate seminars, and directed research projects. The program accelerates and enhances undergraduate students' appreciation for graduate level scholarship by involving them in the seminars, research activities, and the scholarly discourse of the college's community of master's- and doctoral-level scholars.

The Integrated B.A./M.A. degree in Media Studies is an academic program that involves students in the systematic study of media. The objective of the course of study is to enable students to achieve a comprehensive understanding of the systems, networks, cultures, and information associated with media. The program prepares students for doctoral study in communications and for professional positions in business and government requiring a comprehensive understanding of the historical, social, and political implications of the media, and research methods for studying the media. This program helps prepare students to organize research projects, critically evaluate research reports, and directly influence media practices by the application of research findings. The program is specifically not intended for advanced professional education.

**Application Process and Admission Requirements**

Students must apply to the program via the [Graduate School application for admission](#), and must meet all the admission requirements of the Graduate School and the Media Studies graduate program for the Master of Arts degree, listed above.

Applicants must have a minimum GPA of 3.5 in order to be admitted; 3 credits from COMM's General Education courses (COMM 100, COMM 150, COMM 180, COMM 320, or COMM 370); and 3 credits from the COMM 200 level and above. Admission to the program is based on the evaluation of the student's transcript, examples of completed writing and research projects, a narrative statement of objectives, and two letters of support from faculty with whom they have worked. One faculty member must be from the College of Communications. Students shall be admitted to an IUG program no earlier than the beginning of the third semester of undergraduate study at Penn State (regardless of transfer or AP credits accumulated prior to enrollment) and no later than the end of the second week of the semester proceeding the semester of expected conferral of the undergraduate degree. Candidates are expected to present records of outstanding scholarly achievement to qualify.

**Applicants to the Integrated program**

1. Must be enrolled in a B.A. program in the College of Communications.
2. Must apply no earlier than the beginning of the third semester of undergraduate study at Penn State (regardless of transfer or AP credits accumulated prior to enrollment) and no later than the end of the second week of the semester proceeding the semester of expected conferral of the undergraduate degree.
3. Must provide a narrative statement of objectives and two letters of endorsement from faculty with whom they have worked. One faculty member must be from the College of Communications.

4. In consultation with an adviser, students must prepare a plan of study appropriate to this integrated program. Students must present their plan of study in person to the head of the graduate program or the appropriate committee overseeing the integrated program prior to being admitted to the program. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser as the student advances through the program.

**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 B.A. in Media Studies are listed in the [Undergraduate Bulletin](#). Degree requirements for the M.A. degree are listed in the Master’s Degree Requirements section above. Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted courses must be at the 500 or 800 level. Credits associated with the culminating experience for the graduate degree cannot be double-counted. Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count towards the graduate degree.

The following credits are eligible to be double-counted towards both the undergraduate and the graduate degrees:

**Graduate Credits:** COMM 504, COMM 506, COMM 507, COMM 510, COMM 511, COMM 512, COMM 513, COMM 514, COMM 515, COMM 516, COMM 517, COMM 518, COMM 520, COMM 521, COMM 522, COMM 550, COMM 553, COMM 556, COMM 580, COMM 582, COMM 584, COMM 585, COMM 594, COMM 595, COMM 596, COMM 597X

**Undergraduate Credits:**
- Advertising: COMM 410, COMM 411, COMM 417, COMM 420, COMM 421W, COMM 424;
- Journalism: COMM 403, COMM 405, COMM 409, COMM 410, COMM 411
- Film Video: COMM 411, COMM 438, COMM 440, COMM 451, COMM 452
- Media Studies: COMM 405, COMM 411, COMM 413W, COMM 418
- Public Relations: COMM 403, COMM 409, COMM 417, COMM 420, COMM 471
- Telecommunications: COMM 403, COMM 405, COMM 410, COMM 484, COMM 486(W), COMM 487(W)

If students accepted into the IUG program are unable to complete the M.A. degree, they are still eligible to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.

**Joint Degree Offering with Penn State Law**

**Degrees Conferred:**
- J.D. (Penn State Law)
- M.A. (Donald P. Bellisario College of Communications, Media Studies)
Joint Degree Program: Penn State Law (PSL) and the Donald P. Bellisario College of Communications (COMM) offer a joint degree program leading to a Juris Doctor (J.D.) and a Master of Arts (M.A.) in Media Studies.

Admission Requirements
Students applying to the joint degree program must be admitted separately into both PSL and COMM. 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 Media Studies graduate program are listed above. Students must first be admitted to the law school and must complete the required first-year curriculum in the J.D. program before commencing the Media Studies M.A. component. Application to the M.A. program must take place through the Graduate School Application. Formal admission to the M.A. program would normally take place during the student's first year of law, but COMM may extend admission to the M.A. program at the time an applicant applies to PSL particularly where an applicant's law school choice depends upon admission to the J.D./M.A. joint degree program. At the student's request, the LSAT may replace the GRE for joint degree admission purposes.

Residency: A typical J.D./M.A. joint degree student will be in residence at PSL for six semesters and at COMM for two semesters.

Liaisons: The department and faculty liaisons for PSL shall be the Associate Dean for Academic Affairs and the student adviser shall be the Associate Dean for Academic Affairs or such other faculty member(s) as may be designated by the Dean. The liaison for COMM shall be the Joint Degree J.D./M.A. Program Faculty Adviser.

Inter-Program Transfer of Credits
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. degree are listed in the Degree Requirements section above.

Penn State Law: A maximum of twelve (12) 500-level credits for Media Studies M.A. course work may be transferred 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 COMM courses may qualify for credit toward the PSL J.D.: COMM 504, COMM 505, COMM 506, COMM 511, COMM 513, COMM 516, COMM 517, COMM 518, COMM 580, COMM 582, COMM 585, and COMM 587.

Donald P. Bellisario College of Communication: A maximum of twelve (12) credits of PSL course work will be counted for credit for the minimum requirements for a master's degree. These courses must be approved by the student's advisory committee and Joint Degree Program Faculty Adviser in COMM, normally during the Program Proposal Meeting.
The J.D. seminar requirement and the Media Studies thesis requirement must be fulfilled separately, using unique research topics.

Course Sequencing: The sequence of courses will be determined by the student and their adviser(s). However, students must successfully complete the first-year curriculum with PSL before beginning the M.A. Media Studies program. In compliance with ABA Standards and Rules law students may not enroll for more than 17 credits per semester at Penn State as a law student; the maximum credit load for graduate students is 15 credits per semester. It is expected that most joint degree students will complete the first two semesters of the M.A. consecutively in either the first or second year after completion of the first-year curriculum with the Law School.

Recommended Program of Study and Advising
All students in the program will have two advisers, one from PSL and one from COMM; the adviser from COMM may be any member of the Graduate Faculty in the College. Periodic interaction between the two advisers is encouraged. A program of study is developed for each student, taking into account the fact that some courses at both locations are offered on a rotating or intermittent basis. Many courses are offered every year but some are offered every two or three years. Advisers will have available a list of projected relevant courses or educational experiences in order to work with the student on an individualized program of study. The standard committee structure will apply to the COMM M.A. program.

Tuition
Students will be charged the applicable PSL tuition to cover the J.D. program and the applicable graduate tuition to cover the M.A. 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 in the M.A. program. 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. Students on graduate assistantships must adhere to the course load policy listed in the Bulletin.

Fulfillment of Degree Requirements and Graduation
A student in the program may complete the requirements for one of the degrees and be awarded that degree prior to completing all the requirements for the other degree; provided, however, that the student shall have successfully completed at least two semesters of work towards the other degree. All courses in one program that will count towards meeting the requirements of the other must be completed before the awarding of either degree. Students will be required to fulfill all requirements for each degree in order to be awarded that degree.
subject to the inter-program transfer of credits. If students accepted into the joint degree program are unable to complete the J.D. degree, they are still eligible to receive the M.A. degree if all M.A. degree requirements have been satisfied.

Important Note: If the joint degree student is using law (900-level) credits toward the graduate degree during their last semester of enrollment, they should be prepared to extend their graduate degree graduation to a subsequent semester (the following semester at a minimum). This is due to the graduate degree approval deadline falling before the law (900-level) course grading processes are complete. If students accepted into the joint degree program are unable to complete the J.D. degree, they are still eligible to receive the M.A. degree if all M.A. degree requirements have been satisfied.

Student Aid
Graduate assistantships and other forms of student aid available to students in this program 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.