Graduate Council Curriculum Report

The Graduate Council Curriculum Report (GCCR), which includes all graduate program 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.

January 14, 2015

1. **Program Change**: Learning, Design, and Technology—drop the Doctor of Education (D.Ed.) degree and the EDTEC option; change in the requirements for the Master of Education (M.Ed.) and Master of Science (M.S.) degree programs (College of Education), page 2

2. **Program Change**: Information Sciences and Technology—change in the requirements for the Master of Science (M.S.) degree program (College of Information Sciences and Technology), page 27

3. **Program Change**: Public Health—change in the requirements for the Master of Public Health (M.P.H.) degree program (College of Medicine), page 38

4. **Program Change**: Computer Science and Engineering—change in the requirements for the Master of Engineering (M.Eng.) degree program (College of Engineering), page 57

5. **Program Change**: Geography—adoption of the dual-title graduate degree program in African Studies for the Doctor of Philosophy (Ph.D.) degree (College of Earth and Mineral Sciences), page 70

Note: Graduate course proposals approved through the Graduate Council curricular review process, as well as information about postbaccalaureate/graduate credit certificates approved by college/school administrators for graduate education, are published in the Senate Curriculum Report.
GRADUATE COUNCIL COMMITTEE ON PROGRAMS AND COURSES

SUBCOMMITTEE ON NEW AND REVISED PROGRAMS AND COURSES PROGRAM, OPTION, OR MINOR
PROPOSAL FORM

Submit 1 copy of the proposal form and 25 copies of the supporting documentation as outlined below to the Curriculum Coordinator, University Faculty Senate, 101 Kern Graduate Building. The proposals will be transmitted to the Dean of the Graduate School for consideration by the Graduate School’s Subcommittee on New and Revised Programs and Courses, and the Committee on Programs and Courses. For a detailed explanation of the form, see the Guide to Curricular Procedures.

College: College of Education
Department or Instructional Area: Learning and Performance Systems

NEW PROGRAM, OPTION OR MINOR

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

Indicate effective date __________________________

OLD PROGRAM, OPTION, OR MINOR: Change _X_ Drop _x_

Old designation of program Learning, Design, and Technology (LDT) – revision of M.Ed. & M.S.
drop of D.Ed.

Old designation of option Drop EDTEC option

Old designation of minor

New designation of program (if changed) New designation of option (if changed) New designation of minor (if changed)

Indicate effective date Spring 2014 or later
SUBMITTED BY  

Date 3/14/14

In Charge of Graduate Program

NOTED BY  

Date 4/14/14

College Representative to Graduate Council Subcommittee on New and Revised Programs and Courses

APPROVED BY  

Date 4/15/14

Dean of College

RECOMMENDED BY  

Date 12/3/2014

Subcommittee on New and Revised Programs and Courses

Date 12/3/2014

Committee on Programs and Courses

NOTED BY  

Date 12/3/2014

Dean of the Graduate School
# Table of Contents

- Justification for Proposed Changes ................................................................. 3
- Revised Version for Graduate Bulletin ............................................................ 5
- Final Version for Graduate Bulletin ................................................................. 16
- Consultation ....................................................................................................... 19
Program Changes for Learning, Design, and Technology

A. Justification for proposed changes, such as updating instruction, together with an indication of expected enrollments and any effects on existing programs.

The changes in this document are proposed in order to update the terminology, course content, degree options, and prerequisites to reflect numerous changes in the field in the past three decades. When the “Instructional Systems” program was created and named (prior to the prominence of constructivist and socio-cultural theories) the field was about creating didactic experiences through which students and working professionals could master behavioral learning objectives. The “instructional systems” they created were aptly named. The field has evolved and we now prepare people to develop “learning systems” through which people can learn and develop. The labels “Instructional Systems” and “Educational Technology” no longer encompass what we prepare people to create. The names and content in several courses are changing, as are certain prerequisites that are no longer appropriate or that have proven not to be truly prerequisite to success in the courses for which they had been identified. The list of faculty members has also been updated.

This proposal includes the elimination of the EDTEC Option to the M.Ed. Students who would take the EDTEC Option will now take the M.Ed. in Learning, Design, and Technology. The EDTEC Option was approved in 2005, and is offered as an online program through the World Campus. The program was designed for educators who work in K-12 or related environments, but consistently attracts approximately 30% of its students from other professional areas. The course offerings in the EDTEC Option were very narrowly defined and specific to K-12 education. Eliminating the EDTEC Option will attract a more diverse population to the online program and integrate the EDTEC students more closely with other students in the LDT program. Outdated courses that are part of the EDTEC Option, such as Internet for Educators, Video in the Classroom, Coordinating Technology Use in Education, and Designing Computer Networks for Education, can be replaced with more relevant courses such as Emerging Web Technologies, Learning, Design Studio, Gaming 2 Learn, and Designing for Course Management Systems, which also have appeal to students who do not work in K-12 environments.

We are dropping the D.Ed. in Learning, Design, and Technology. In general, students pursuing the D.Ed. transfer into the Ph.D. program prior to graduation in LDT, which explains why there are currently enrolled D.Ed. students but no graduates since 2007. The perception of most students is that the Ph.D. is a degree that is more likely to lead to academic posts, and as students experience the research environment, they prefer to aim toward research and academic jobs in their futures. Because Penn State’s LDT program is among the best research programs in the country, we attract far more students who are interested in Ph.D. level work than advanced practitioner degrees and many of our students are highly marketable for academic positions.
The revised M.Ed. in LDT is a 30 credit master’s, reducing the requirements for the degree from 33 to 30 credits. This reduction in required credits will better position the program in relation to its online competitors. Since the new courses will increase the design emphasis of the program, rather than preparing learners to engage in scholarly research, the requirement of AEE 521, STAT 500, EDPSY 421, or equivalent, will be eliminated for the M.Ed. Instead, our revised program will focus heavily on courses that integrate learning, design, and technology. Students may continue to take AEE 521, STAT 500, or EDPSY 421 as electives.

We are also revising the requirements for the M.S. in Learning, Design, and Technology to align curricular requirements for the master’s with curricular requirements for the doctoral degree. The revised M.S. in LDT is a 36-credit master’s, reducing the degree requirements from 39 to 36 credits. The course list has been modified to prepare students to engage in research related to learning environment design, design based research, and the role of technology in supporting learning in formal and everyday contexts. The M.S. curriculum also aligns with requirements for the Ph.D.

To address the comments made by Dr. Robert Stevens: We agree that a foundation in learning is important for our master’s students, and we have embedded learning theory throughout several of our design courses. We believe that tightly coupling learning theory and design methods for technology-enhanced learning is needed, especially with regard to uses of emerging technologies that follow more participatory theories of engagement, and our new master's program is centering on these more modern uses of technology for learning. We feel, as C&I did when they stopped requiring separate courses on technologies for future teachers, that more frequent exposure to foundational issues (technology use in C&I's case, learning theory in ours), across several courses, is better than requiring a dedicated course, and that when cross-cutting foundational ideas and theories are integrated with disciplinary methods courses learners come to see them as a part of the field and what they do, rather than seeing it as a related field. Learning theory is not a big part of all of our courses, but it is a significant part of several. As examples, our "Theoretical Foundations of Instructional Systems" course examines contemporary research in learning with technology, our “Systematic Instructional Development” courses work with learning theory as embedded into the instructional design practice, covering constructivism, inquiry learning and learner centered models, and our "Designing Constructivist Learning Environments” course, as one might suspect from its name, reinforces constructivist learning principles.

We like the recent changes you and your colleagues have made to EDPSY 421, and we will be recommending it as an elective. Many of the students entering the program have had one or more learning theory courses, but when we find entering learners weak in this area we are likely to recommend 421 as a prerequisite.

B. A revised version of the affected area showing both the old program requirements and the new programs requirements (so that the reviewers can determine what specifically is being changed). The proposal should include a side-by-side comparison of admission requirements, number of credits required, specific courses to be taken, etc. A copy of the
existing Graduate Bulletin description, with all changes marked (with track changes, for example), also must be included.

Current Bulletin Listing

Learning, Design, and Technology (LDT)

Program Home Page

KYLE PECK, Director of Graduate Studies
314 Keller Building
814-863-2596
rdr15@psu.edu

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

The Graduate Faculty

- Alison A. Carr-Chellman, Ph.D. (Indiana) Professor of Education
- Roy B. Clariana, Ed.D. (Memphis) Professor of Education
- Simon R. Hooper, Ph.D. (Penn State) Associate Professor of Education
- Susan M. Land, Ph.D. (Florida State) Associate Professor of Education
- Doris Lee, Ph.D. (Texas) Professor of Education
- Kyle L. Peck, Ph.D. (Colorado) Professor of Education
- Priya Sharma, Ph.D. (Georgia) Associate Professor of Education
- Heather Zimmerman, Ph.D. (Washington) Assistant Professor of Education

This program provides advanced professional preparation in the development of effective, efficient instructional materials and the use of

Bulletin Listing with Changes

Learning, Design, and Technology (LDT)

Program Home Page

DAVID PASSMORE KYLE PECK, Director of Graduate Studies
301 Keller Building
814-863-2596
l-ldtup@lists.psu.edu LDTUP@psu.edu

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

The Graduate Faculty

-—Alison A. Carr-Chellman, Ph.D. (Indiana) Professor of Education
-—Marcela Borge, Ph.D. (California), Assistant Professor of Education
-—Alison A. Carr-Chellman, Ph.D. (Indiana) Professor of Education
-—Doris Lee, Ph.D. (Texas) Professor of Education
-—Kyle L. Peck, Ph.D. (Colorado) Professor of Education
-—Priya Sharma, Ph.D. (Georgia) Associate Professor of Education
-—Heather Zimmerman, Ph.D. (Washington) Assistant Professor of Education

-—Roy B. Clariana, Ed.D. (Memphis) Professor of Education
-—Simon R. Hooper, Ph.D. (Penn State) Associate Professor of Education
technology in educational settings. Skill and knowledge in the fields of educational psychology, instructional design, computer technologies, development of educational materials, and evaluation of educational outcomes combine to prepare graduates for a variety of roles and professional environments. Graduates are employed by corporate, agency, and military training departments; entrepreneurial consulting companies; public school districts, community college learning resource centers, and colleges and universities. The program offers an M.S. degree for students who will continue into the Ph.D. program and a career in higher education, and two options within the M.Ed., Instructional Systems Design and Educational Technology.

| Susan M. Land, Ph.D. (Florida State) |
| -- Associate Professor of Education |
| Doris Lee, Ph.D. (Texas) |
| -- Professor of Education |
| Orrin Murray, Ph.D. (Michigan) |
| -- Assistant Professor of Education |
| Kyle L. Peck, Ph.D. (Colorado) |
| -- Professor of Education |
| J. David Popp (Penn State) |
| -- Adjunct Assistant Professor of Education |
| Priya Sharma, Ph.D. (Georgia) |
| -- Associate Professor of Education |
| Heather Zimmerman, Ph.D. (Washington) |
| -- Assistant Associate Professor of Education |

This program provides advanced professional preparation in the development of effective, efficient instructional materials and the use of technology to support learning in a variety of educational settings. The program of study applies skill and knowledge from the fields of the learning sciences, instructional design, computer technologies, and research methodologies to study educational designs and their effect on learning. Graduates are employed as instructional designers by corporate, agency, and military training departments; entrepreneurial consulting companies; public school districts; museums, nature

---

**Admission Requirements**

Scores from the Graduate Record Examinations (GRE) (for master's or doctorate) or Miller Analogies Test (for master's), transcripts, letters of reference, application letter, and writing assignment are required for
Master's Degree Requirements

Requirements listed here are in addition to general Graduate School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. For the M.S. degree, EDPSY 400 or its equivalent is prerequisite. M.Ed. and M.S. candidates are expected to complete the following courses: INSYS 415, INSYS 521, INSYS 522, INSYS 525 or INSYS 527, four INSYS emphasis courses, and 6 credits of professional orientation in Educational Psychology, Educational Leadership, Workforce Education and Development, and/or Adult Education. Other courses may be substituted with approval from the candidate's adviser. The Leadership in Technology Integration emphasis requires INSYS 471 instead of INSYS 521.

The M.S. degree requires: as core courses INSYS 415 and EDPSY 421; as required courses INSYS 575 or EDPSY 475, and 6 credits of INSYS 600/610; and a master's thesis.

The M.Ed. Instructional Systems Design option requires: as core courses INSYS 415, INSYS 521, INSYS 522, and INSYS 525; as required courses, INSYS 527, and EDPSY 421; and a master's project paper, internship and paper, or design apprenticeship.

Admission Requirements

Scores from the Graduate Record Examinations (GRE) (for master's or doctorate) or Miller Analogies Test (for master's), transcripts, letters of reference, application letter, and writing assignment are required for admission.

Requests to waive the GRE requirement may be submitted by applicants for the M.Ed. who have successfully completed coursework for the Postbaccalaureate Certificate in Educational Technology Integration with a GPA greater than 3.5. However, GRE scores will be required to apply to the doctoral program.
The M.Ed. with an Educational Technology option requires: as core courses INSYS 415 and EDPSY 421; as required courses AEE 521 or STAT 500; EDTEC 448, EDTEC 561, EDTEC 562; EDTEC 566 or EDTEC 566; and EDTEC 567; and a master's paper documenting the effectiveness of a technology-related intervention in an educational setting.

**Requirements**

Students in the M.S. degree program are required to complete a minimum of 36 approved credits including: 9 credits of LDT core (LDT 415, LDT 467, and LDT 527, or equivalent) as well as 12 credits of courses chosen in consultation with an adviser. These courses can be chosen from, but are not limited to, LDT 401, LDT 433, LDT 440, LDT 449, LDT 505, LDT 550, LDT 561, LDT 566, LDT 581, and LDT 832. In addition, M.S. students will take 2 research methods courses with adviser approval, which can include, but are not limited to, STAT 500, STAT 800, ADTED 550, LDT 574, LDT 575, LDT 576, LDT 545, EDPSY 406, EDPSY 475, and EDPSY 505. M.S. students will also be required to enroll in 3 credits of LDT 594 to conduct their research project, and 6 credits of LDT 600/610 to write and produce a master’s thesis.

Students in the masters degree program are required to complete a program of a minimum of 30 approved credits including the 9-credit LDT core (LDT 415, LDT 467, and LDT 527, or equivalent) as well as 18 credits of professional application courses chosen in consultation with an adviser. All students will compile a portfolio as they move through the courses, and this portfolio will be presented to the adviser as the capstone experience (students do not need to enroll in any additional courses to complete the capstone experience).

Students in the masters degree program are required to complete a program of 30 approved credits, and expected to complete the core: LDT 415, LDT 467, and LDT 527, or equivalent.
## Doctoral Degree Requirements

Requirements listed here are in addition to general Graduate School requirements stated in the [GENERAL INFORMATION](#) section of the [Graduate Bulletin](#). In addition to those requirements for a master's degree, D.Ed. and Ph.D. candidates are expected to complete the following courses: EDPSY 421, two doctoral CORE courses (INSYS 581, INSYS 583, or INSYS 586), 12 credits of Instructional Systems emphasis courses, and a 15-credit minor or supporting field.

The Ph.D. candidate is expected to complete four research design courses covering both quantitative and qualitative methods. The communication requirement must be satisfied by completing one course in applied statistics, and either one course in advanced statistics or one course in advanced qualitative data analysis. The Ph.D. candidate is also expected to complete a research apprenticeship working directly with a faculty member.

The D.Ed. candidate is expected to complete two research design courses, choosing from experimental, qualitative, or survey research design, and a 9- to 15-credit internship.

As part of the candidacy exam, candidates are required to prepare residency plans indicating how they will be professionally immersed during their residency period. This plan is then reviewed again prior to graduation.

Candidates for doctoral degrees with a minor in Learning, Design, and Technology must take a minimum of 15 credits approved in LDT core, (LDT 415, LDT 467, and LDT 527, or equivalent) as well as eighteen credits of professional application courses chosen in consultation with an adviser. These courses can be chosen from, but are not limited to (LDT 401, LDT 433, LDT 440, LDT 449, LDT 505, LDT 550, LDT 561, LDT 566, LDT 581, and LDT 832). All students will compile a portfolio as they move through the courses, and this portfolio will be presented to the adviser as the capstone experience.

For both M.S. and M.Ed. students, at least 18 credits must be taken at the 500 level or above, with at least 6 credits at the 500 level. Requirements listed here are in addition to general Graduate School requirements stated in the [GENERAL INFORMATION](#) section of the [Graduate Bulletin](#). For the M.S. degree, EDPSY 400 or its equivalent is prerequisite. M.Ed. and M.S. candidates are expected to complete the following courses: INSYS 415, INSYS 521, INSYS 522, INSYS 525 or INSYS 527, four INSYS emphasis courses, and 6 credits of professional orientation in Educational Psychology, Educational Leadership, Workforce Education and Development, and/or Adult Education. Other courses may be substituted with approval from the candidate's adviser. The Leadership in Technology Integration emphasis requires INSYS 471 instead of INSYS 521.

The M.S. degree requires: as core courses INSYS 415 and EDPSY 421; as required courses INSYS 575 or EDPSY 475, and 6 credits of INSYS 600/610; and a master's thesis.

The M.Ed. Instructional Systems Design option requires: as core courses INSYS 415, INSYS 521, INSYS 522, and INSYS 525; as required courses INSYS 527, and EDPSY 421; and a master's project paper, internship and paper, or design apprenticeship.
The M.Ed. with an Educational Technology option requires: as core courses INSYS 415 and EDPSY 421; as required courses AEE 521 or STAT 500, EDTEC 448, EDTEC 561, EDTEC 562, EDTEC 566 or EDTEC 566; and EDTEC 567; and a master's paper documenting the effectiveness of a technology-related intervention in an educational setting.

Doctoral Degree Requirements

Requirements listed here are in addition to general Graduate Council School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin.

Credit and course requirements: Candidates for the Ph.D. in LDT must complete a set of core competencies in instructional design, learning sciences and technology, research methodology, and research apprenticeship. Doctoral candidates must complete a minimum of 30 LDT credits to include 9 credits of LDT doctoral core courses, 9 credits of LDT 594, and at least 12 credits of 500-level graduate LDT courses based on competency selection. LDT doctoral core courses include LDT 527, LDT 581, and LDT 583. Core competencies are represented by a number of courses including (but not limited to) LDT 505, LDT 550, LDT LDT 551, LDT 586, LDT 544, LDT 545, LDT 549, LDT 574, LDT 575, LDT 576, and LDT 832. -As an example, a doctoral candidate interested in the instructional design core competency might be advised to take LDT 550, LDT 551, LDT 549, and LDT 832, while a candidate interested in learning sciences and
Student Aid

A limited number of graduate assistantships are available to students in this program. These and other forms of student aid are described in the Student Aid section of the Graduate Bulletin.

Courses

Graduate courses carry numbers from 500 to 699. 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.

INSTRUCTIONAL SYSTEMS (INSYS) course list

EDUCATIONAL TECHNOLOGY (EDTEC) course list

Last Revised by the Department: Fall Semester 2012

Blue Sheet Item #: 41-03-120

technology might be advised into LDT 505, LDT 574, LDT 576, and LDT 544. Doctoral candidates must complete a minimum of 9 credits of LDT 594 and at least 12 credits of 500 level graduate LDT courses based on the competency selection. The 12 credits of core competencies referenced earlier plus additional coursework for the doctoral program should will be determined in consultation with the doctoral committee. All Ph.D. candidates must also complete a communication requirement consisting of one course in applied statistics, and either one course in advanced statistics or one course in advanced qualitative analysis. Coursework offered by outside departments may be scheduled as part of the student’s program with approval of the student’s doctoral committee and the Director of Graduate Studies.

To complete the residency requirements as defined by the Graduate Council School, the Ph.D candidate must spend at least two consecutive semesters enrolled as a full-time student at the University Park campus.

Doctoral exams and committees: The candidacy exam is recommended to be taken early in a student’s program, after a minimum of 18 credits of post-baccalaureate work, and within three semesters (not including summers and assuming full-time study) of entry into the doctoral program. Students must apply to take the candidacy exam, and the LDT faculty must approve the application to be approved by the LDT faculty. In order to complete the Candidacy Exam, students must be registered either full- or part-time during the semester in which it is completed and show no deferred or failing grades in courses related to the degree program on their graduate transcript.

Prior to the comprehensive exam, the student, in consultation with his or her adviser, will convene a doctoral committee that consists of
at least four members of the graduate faculty. The committee must comprise at least two 
LDT faculty members (including the thesis 
adviser), one outside field member, and one 
outside unit member. In cases where the 
outside field member and outside unit member 
are the same person, the fourth member may be 
either a minor adviser or a third LDT faculty 
member. Additional information about doctoral 
committees is available in the Graduate 
Bulletin.

In addition, After the completion of all 
coursework, the doctoral student must 
complete a comprehensive examination administered at the completion of all 
coursework. All doctoral candidates must 
produce and write a doctoral dissertation and 
hold followed by the a final oral examination 
in defense of the Ph.D. dissertation.

Credit and course requirements: Candidates for the Ph.D. in LDT 
must complete a set of core competencies in 
instructional design, learning sciences and 
technology, research methodology, and 
research apprenticeship. Doctoral candidates 
must complete a minimum of 9 credits of LDT 
594 and at least 12 credits of 500 level 
graduate LDT courses based on the 
competency selection. The 12 credits of core 
competencies plus additional coursework for 
the doctoral program should be determined in 
consultation with the doctoral committee. 
Coursework offered by outside departments 
may be scheduled as part of the student’s 
program with approval of the student’s 
doctoral committee and the Director of 
Graduate Studies.

To complete the residency requirements as 
defined by the Graduate School, the Ph.D 
candidate must spend at least two consecutive 
semesters enrolled as a full-time student at the 
University Park campus.
The candidacy exam be taken early in a student’s program, after a minimum of 18 credits of post-baccalaureate work, and must be taken within three semesters (not including summers) of entry into the doctoral program. It is recommended that the examination be completed after the following courses have been taken: INSYS 415, EDPSY 421, INSYS 522, INSYS 525 or 527. In order to complete the Candidacy Exam, you must be registered either full or part time during the semester in which it is completed.

In addition, a comprehensive examination is administered at the completion of all coursework, followed by the final oral examination in defense of the Ph.D. dissertation.

Requirements listed here are in addition to general Graduate School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. In addition to those requirements for a master’s degree, D.Ed. and Ph.D. candidates are expected to complete the following courses: EDPSY 421, two doctoral CORE courses (INSYS 581, INSYS 583, or INSYS 586), 12 credits of Instructional Systems emphasis courses, and a 15-credit minor or supporting field.

The Ph.D. candidate is expected to complete four research design courses covering both quantitative and qualitative methods. The communication requirement must be satisfied by completing one course in applied statistics, and either one course in advanced statistics or one course in advanced qualitative data analysis. The Ph.D. candidate is also expected to complete a research apprenticeship working directly with a faculty member.

The D.Ed. candidate is expected to complete two research design courses, choosing from experimental, qualitative, or survey research
design, and a 9- to 15-credit internship.

As part of the candidacy exam, candidates are required to prepare residency plans indicating how they will be professionally immersed during their residency period. This plan is then reviewed again prior to graduation.

Candidates for doctoral degrees with a minor in Learning, Design, and Technology must take a minimum of 15 credits approved in advance by the professor in charge of the Learning, Design, and Technology program.

Student Aid

A limited number of graduate assistantships are available to doctoral students in this program. These and other forms of student aid are described in the STUDENT AID section of 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.

LEARNING, DESIGN, and TECHNOLOGY (LDT) Learcourse list

EDUCATIONAL TECHNOLOGY
Proposed Revisions (tracked) to Graduate Bulletin

Description

Learning, Design, and Technology (LDT)

Program Home Page
DAVID PASSMORE, Director of Graduate Studies
301 Keller Building
814-863-2596
L-ldtup@lists.psu.eduLDTUP@psu.edu

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

The Graduate Faculty

The Program

This program provides advanced professional preparation in the development of effective, efficient instructional materials and the use of technology to support learning in a variety of educational settings. The program of study applies skill and knowledge from the fields of the learning sciences, instructional design, computer technologies, and research methodologies to study educational designs and their effect on learning. Graduates are employed as instructional designers by corporate, agency, and military training departments; entrepreneurial consulting companies; public school districts; museums, nature centers, and other informal learning settings; community college learning resource centers; and colleges and universities. Skill and knowledge in the fields of educational psychology, instructional design, computer technologies, development of educational materials, and evaluation of educational outcomes combine to prepare graduates for a variety of roles and professional environments. Graduates are employed by corporate, agency, and military training departments; entrepreneurial consulting companies; public school districts, community college learning resource centers, and colleges and universities. The program offers an M.S. degree for students who will continue into the Ph.D. program and a career in higher education, and two options within the M.Ed., Instructional Systems Design and Educational Technology.

Admission Requirements

Scores from the Graduate Record Examinations (GRE) (for master's or doctorate) or Miller Analogies Test (for master's), transcripts, letters of reference, application letter, and writing assignment are required for admission.

Requests to waive the GRE requirement may be submitted by applicants for the M.Ed. who have successfully completed coursework for the Postbaccalaureate Certificate in Educational Technology Integration with a GPA greater than 3.5. However, GRE scores will be required to
apply to the doctoral program.

Master's Degree Requirements

Students in the M.S. degree program are required to complete a minimum of 36 approved credits including: 9 credits of LDT core (LDT 415, LDT 467, and LDT 527, or equivalent) as well as 12 credits of courses chosen in consultation with an adviser. These courses can be chosen from, but are not limited to, LDT 401, LDT 433, LDT 440, LDT 449, LDT 505, LDT 550, LDT 561, LDT 566, LDT 581, and LDT 832. In addition, M.S. students will take 2 research methods courses 6 credits of research methods courses with adviser approval, which can include, but are not limited to, STAT 500, STAT 800, ADTED 550, LDT 574, LDT 575, LDT 576, LDT 545, EDPSY 406, EDPSY 475, and EDPSY 505. M.S. students will also be required to enroll in 3 credits of LDT 594 to conduct their research project, and 6 credits of LDT 600/610 to write and produce a master's thesis. Requirements listed here are in addition to general Graduate School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. For the M.S. degree, EDPSY 400 or its equivalent is prerequisite. M.Ed. and M.S. candidates are expected to complete the following courses: INSYS 415, INSYS 521, INSYS 522, INSYS 525 or INSYS 527, four INSYS emphasis courses, and 6 credits of professional orientation in Educational Psychology, Educational Leadership, Workforce Education and Development, and/or Adult Education. Other courses may be substituted with approval from the candidate's adviser. The Leadership in Technology Integration emphasis requires INSYS 471 instead of INSYS 521.

The M.S. degree requires: as core courses INSYS 415 and EDPSY 421; as required courses INSYS 575 or EDPSY 475, and 6 credits of INSYS 600/610; and a master's thesis.

Students in the M.Ed. program are required to complete a program of a minimum of 30 approved credits including the 9-credit LDT core (LDT 415, LDT 467, and LDT 527, or equivalent) as well as 18 credits of professional application courses chosen in consultation with an adviser. These courses can be chosen from, but are not limited to, LDT 401, LDT 433, LDT 440, LDT 449, LDT 505, LDT 550, LDT 561, LDT 566, LDT 581, and LDT 832. All students will compile a portfolio as they move through the courses, and this portfolio will be presented to the adviser as the capstone experience (students do not need to enroll in any additional courses to complete the capstone experience).

For both M.S. and M.Ed. students, at least 18 credits must be taken at the 500 level or above, with at least 6 credits at the 500 level. The M.Ed. Instructional Systems Design option requires: as core courses INSYS 415, INSYS 521, INSYS 522, and INSYS 525; as required courses, INSYS 527, and EDPSY 421; and a master's project paper, internship and paper, or design apprenticeship.

The M.Ed. with an Educational Technology option requires: as core courses INSYS 415 and EDPSY 421; as required courses AEE 521 or STAT 500, EDTEC 448, EDTEC 561, EDTEC 562, EDTEC 566 or EDTEC 566, and EDTEC 567; and a master's paper documenting the effectiveness of a technology-related intervention in an educational setting.

Doctoral Degree Requirements

Requirements listed here are in addition to general Graduate School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin.
Credit and course requirements: Candidates for the Ph.D. in LDT must complete a set of core competencies in instructional design, learning sciences and technology, research methodology, and research apprenticeship. Doctoral candidates must complete a minimum of 30 LDT credits to include 9 credits of LDT doctoral core courses, 9 credits of LDT 594, and at least 12 credits of 500-level graduate LDT courses based on competency selection. LDT doctoral core courses include LDT 527, LDT 581, and LDT 583. Core competencies are represented by a number of courses including (but not limited to) LDT 505, LDT 550, LDT 551, LDT 586, LDT 544, LDT 545, LDT 549, LDT 574, LDT 575, LDT 576, and LDT 832. As an example, a doctoral candidate interested in the instructional design core competency might be advised to take LDT 550, LDT 551, LDT 549, and LDT 832, while a candidate interested in learning sciences and technology might be advised into LDT 505, LDT 574, LDT 576, and LDT 544. The 12 credits of core competencies referenced earlier plus additional coursework for the doctoral program will be determined in consultation with the doctoral committee. All Ph.D. candidates must also complete a communication requirement consisting of one course in applied statistics, and either one course in advanced statistics or one course in advanced qualitative analysis. Coursework offered by outside departments may be scheduled as part of the student’s program with approval of the student’s doctoral committee and the Director of Graduate Studies.

To complete the residency requirements as defined by Graduate Council, the Ph.D candidate must spend at least two consecutive semesters enrolled as a full-time student at the University Park campus.

Doctoral exams and committees: The candidacy exam is recommended to be taken early in a student’s program, after a minimum of 18 credits of post-baccalaureate work, and within three semesters (not including summers and assuming full-time study) of entry into the doctoral program. Students must submit an application to take the candidacy exam, and the LDT faculty must approve the application. In order to complete the candidacy exam, students must be registered either full- or part-time during the semester in which it is completed and show no deferred or failing grades in courses related to the degree program on their graduate transcript.

Prior to the comprehensive exam, the student, in consultation with his or her adviser, will convene a doctoral committee that consists of at least four members of the graduate faculty. The committee must comprise at least two LDT faculty members (including the thesis adviser), one outside field member, and one outside unit member. In cases where the outside field member and outside unit member are the same person, the fourth member may be either a minor adviser or a third LDT faculty member. Additional information about doctoral committees is available in the Graduate Bulletin.

After the completion of all coursework, the doctoral student must complete a comprehensive examination. All doctoral candidates must produce and write a doctoral dissertation and hold a final oral examination in defense of the dissertation. In addition to those requirements for a master's degree, D.Ed., and Ph.D. candidates are expected to complete the following courses: EDPSY 421, two doctoral CORE courses (INSYS 581, INSYS 583, or INSYS 586), 12 credits of Instructional Systems emphasis courses, and a 15-credit minor or supporting field.

The Ph.D. candidate is expected to complete four research design courses covering both quantitative and qualitative methods. The communication requirement must be satisfied by completing one course in
applied statistics, and either one course in advanced statistics or one course in advanced qualitative data analysis. The Ph.D. candidate is also expected to complete a research apprenticeship working directly with a faculty member.

The D.Ed. candidate is expected to complete two research design courses, choosing from experimental, qualitative, or survey research design, and a 9- to 15-credit internship. As part of the candidacy exam, candidates are required to prepare residency plans indicating how they will be professionally immersed during their residency period. This plan is then reviewed again prior to graduation.

Candidates for doctoral degrees with a minor in Learning, Design, and Technology must take a minimum of 15 credits approved in advance by the professor in charge of the Learning, Design, and Technology program.

Student Aid

A limited number of graduate assistantships are available to doctoral students in this program. These and other forms of student aid are described in the STUDENT AID section of 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.

C. Original written responses from departments affected, either by potential overlapping content or audience or by potential opportunities for collaboration (received during consultation phase).

Consultation was requested from:

Dr. J. David Popp, Coordinator, EDTEC Program (consultation attached)
Dr. Fred Schied, Adult Education
Dr. David Passmore, Workforce Education and Development
Dr. Robert Stevens, Educational Psychology (consultation attached)
Dr. Gary Thompson, Office for Research and Graduate Education, AEE
Dr. Kai Schafft, Educational Leadership
Dr. Mosuk Chow, Department of Statistics (consultation attached)
Dr. Michael McNeese, IST
Dr. David Sylvia, World Campus (consultation attached)
Dear Kyle and Cindy,

I have reviewed the proposed LDT program changes, and am in concurrence with the proposal. The new program incorporates changes that have been discussed for several years with LDT faculty and World Campus personnel. It reflects updates to the curriculum both groups believe the program should make in order to better serve our current students and to attract new students to the program.

I did note one technical error in the document. The document contains links to the Instructional Systems (INSYS) course list, and the EDUCATIONAL TECHNOLOGY (EDTEC) course list. All course prefixes in the new program will be LDT, so this will need to be changed.

Sincerely,
Dave Popp

--
J. David Popp, Ph. D.
Lead Faculty for Online Programs in Learning, Design, and Technology 314D Keller Building
University Park, PA 16802 Phone 814-865-8472
Cynthia Fetters

From: Robert Stevens [js15@psu.edu]
Sent: Thursday, January 16, 2014 12:16 PM
To: Cindy Fetters; KYLE PECK
Subject: Re: Consultation for LDT Program Proposal

Cindy & Kyle,

I've looked over the proposed changes in the LDT programs of study and find them curious. At a time when most fields of study are moving to more interdisciplinary approaches in preparing students, these changes seem to be more insular. All of the classes listed in the program are within the program, with no reaching out to the relevant knowledge base in the rest of the College and University (e.g., in IST, Educational Psychology, educational philosophy, etc.). In all honesty, the question that came to mind was "Is this education or indoctrination?" Of course, my personal philosophy is biased toward interdisciplinary training and research, as is the approach of our graduate program.

My second reaction was with respect to the removal of even elementary statistics from the program of study. This too is surprising at a time when programs of research and federally funded research is moving to even more sophisticated and complex design and statistical analyses. Perhaps best underscored by the fact that the College has now hired a statistical consultant to aid in preparing more rigorous methodologies for research in the College. In my opinion, students who are being prepared at the PhD level, who will conduct research should be trained in both rigorous quantitative and qualitative methods in order to best prepare them for the future.

You asked for consultation, and these are the comments I have to offer. I hope they are accepted in the sense of collegiality and collaboration that I intend them. If you would like specific recommendations, I would be happy to offer some.

Bob

Robert Stevens
Professor of Educational Psychology
141 CEDAR Building
Penn State University
University Park, PA 16802
js15@psu.edu

On Jan 10, 2014, at 12:48 PM, Cindy Fetters wrote:

<LDT Program Changes (Final).doc>
Hello Cindy,

I have read through the program change proposal for the Learning, Design, and Technology program in Learning and Performance Systems. I think that the requested changes are justified by the rationales provided.

Sincerely,
Mosuk Chow

On 1/10/2014 12:48 PM, Cindy Fetters wrote:

Good afternoon!

I am coming to you to request formal consultation with regards to a program change proposal for the Learning, Design, and Technology Program in Learning and Performance Systems.

We would appreciate having your consultation comments by Friday, January 17, 2014.

Thank you for your assistance and please contact me with any questions.

Cindy

Cindy Fetters, Administrative Support Coordinator
The Pennsylvania State University
Learning and Performance Systems
411E Keller Bldg.
University Park, PA 16802
Phone: 814-863-9768
Fax: 814-865-2632
Cynthia Fetters

From:          DAVID M SYLVIA [dms38@psu.edu]
Sent:         Tuesday, January 14, 2014 10:55 AM
To:           Kyle Peck
Cc:           Cindy Fetters; Alison Carr-Chellman; Michelle Corby; Greg Kelly; Stephanie Knight
Subject:      RE: Consultation on LDT Program Proposal

Kyle,

The World Campus is very supportive of the expanded curriculum for the MEd in LDT. I do have a few questions about the current “change” proposal that you may want to address prior to submitting to Graduate Council:

- A requirement for professional degrees is a significant culminating experience. In our preliminary meeting we had discussed a “capstone” course that would be incorporated into the curriculum. I believe the expectation for the capstone should be listed under the master degree requirements.
- My understanding is that Dave Popp will continue to be the lead faculty for the MEd. He is a member of the LDT Graduate Faculty so I believe he should be listed in the faculty list.
- Should the option of the GRE waiver for the MEd be include under the admission requirements?
- Regarding student aid, I presume assistantships are only for PhD candidates. If so, you may want to state “… available for students in the PhD program.

Best,
David

******************************************************************************

David M. Sylvia, Professor
Director of Academic Affairs for Graduate Programs
Penn State Online, The World Campus
222G Outreach Building
University Park, PA 16802-7012
Office: 814-863-6726, Fax: 814-863-7042
e-mail: dmsylvia@psu.edu
For students: www.worldcampus.psu.edu
For faculty: wblearning.psu.edu/world-campus
******************************************************************************

Confidentiality Notice: This message is intended for the person or entity to which it is addressed and may contain information that is confidential or privileged. If you are not the intended recipient or the person responsible for delivering it to the intended recipient, please notify the sender and delete this communication immediately. Thank you!

From: Cindy Fetters [mailto:cfetters2@psu.edu]  
Sent: Friday, January 10, 2014 12:49 PM  
To: davepopp@psu.edu; FRED M. SCHIED; dlip@psu.edu; rls15@psu.edu; gat10@psu.edu; Kai Schafft; mxc18@psu.edu; mdm25@psu.edu; dmsylvia@psu.edu  
Subject: Consultation for LDT Program Proposal

Good afternoon!
GRADUATE COUNCIL
PROGRAM, OPTION, OR MINOR PROPOSAL FORM

Submit 1 original, signed Graduate Council proposal form and 7 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. The proposals will be transmitted to 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.

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

College/School: College of Information Sciences and Technology
Department or Instructional Area: IST

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 (cannot be earlier than the first semester following approval):

EXISTING GRADUATE PROGRAM, OPTION, OR MINOR: Change X Drop

Current designation of graduate program: Master of Science in Information Sciences and Technology
Current designation of graduate option:
Current designation of graduate minor:

New designation of existing graduate program (if changing): Changes to degree requirements
New designation of existing graduate option (if changing):
New designation of existing graduate minor (if changing):

Indicate effective semester (cannot be earlier than the first semester following approval): Fall 2014

SUBMITTED BY GRADUATE PROGRAM HEAD:

Peter Forster
Printed name
Signature
Date: 3/19/14

NOTED BY COLLEGE/SCHOOL REPRESENTATIVE TO GRADUATE COUNCIL SUBCOMMITTEE ON NEW AND REVISED PROGRAMS AND COURSES:

Peter Forster
Printed name
Signature
Date: 3/19/14

APPROVED BY COLLEGE/SCHOOL DEAN/CHANCELLOR (OR DESIGNEE):

Michael McNeese
Printed name
Signature
Date: 3/24/14
RECOMMENDED BY CHAIR, GRADUATE COUNCIL SUBCOMMITTEE ON NEW AND REVISED PROGRAMS AND COURSES:

On behalf of C. Andrew Cole  R. Vasilatos-Younken  
Printed name  Signature  
Date: 12/11/14

RECOMMENDED BY CHAIR, GRADUATE COUNCIL COMMITTEE ON PROGRAMS AND COURSES:

On behalf of Joan Redwing  R. Vasilatos-Younken  
Printed name  Signature  
Date: 12/11/14

NOTED BY DEAN OF THE GRADUATE SCHOOL:

Regina Vasilatos-Younken  R. Vasilatos-Younken  
Printed name  Signature  
Date: 12/12/14
SUPPORTING DOCUMENTATION REQUIRED FOR PROGRAMS, OPTIONS, OR MINORS (Adds, Changes, or Drops)

Proposed Changes to Master of Science in Information Sciences and Technology

A. Comparison of current vs. proposed requirements

<table>
<thead>
<tr>
<th>CURRENT-THESIS</th>
<th>PROPOSED-THESIS</th>
<th>CURRENT-PROJECT</th>
<th>PROPOSED-SCHOLARLY PAPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 credits</td>
<td>No Change</td>
<td>30 credits</td>
<td>No Change</td>
</tr>
<tr>
<td>9 credits core courses:</td>
<td>6 credits core courses:</td>
<td>9 credits core courses:</td>
<td>6 credits core course:</td>
</tr>
<tr>
<td>- Choice of 3 from: IST 501, IST 511, IST 512, IST 521, IST 522, IST 531, IST 532</td>
<td>- IST 504</td>
<td>- Choice of 3 from: IST 501, IST 511, IST 512, IST 521, IST 522, IST 531, IST 532</td>
<td>- IST 504</td>
</tr>
<tr>
<td>3 credits research methods</td>
<td>6 credits research methods (e.g. IST 503, IST 541, IST 557)</td>
<td>3 credits research methods</td>
<td>6 credits research methods (e.g. IST 503, IST 541, IST 557)</td>
</tr>
<tr>
<td>12 credits specialization</td>
<td>12 credits for courses or research (e.g. IST 516, IST 525, IST 536)</td>
<td>15 credits specialization</td>
<td>12 credits for specialization (e.g. IST 516, IST 525, IST 536)</td>
</tr>
<tr>
<td>6 credits 600 for thesis</td>
<td>No Change</td>
<td>3 credits 594 for project</td>
<td>6 credits 594 for scholarly paper</td>
</tr>
<tr>
<td>Thesis Required</td>
<td>No Change</td>
<td>Report to Committee</td>
<td>No Change</td>
</tr>
<tr>
<td>Presentation Required</td>
<td>No Change</td>
<td>Presentation Required</td>
<td>Presentation Optional</td>
</tr>
</tbody>
</table>

B. Justification for M.S. program changes

The M.S. program was last changed in January 2013. However, since that time, we have made a number of modifications to our Ph.D. program. The implementation of those changes to the Ph.D. program necessitated changes to the M.S. program as the M.S. program core courses had closed mirrored our former Ph.D. program. We took this as an opportunity to revamp our M.S. program to provide more flexibility in meeting their educational needs of the students.
The primary changes we are making are to increase the program’s flexibility in supporting the multiple educational needs of students in our M.S. program. We propose to reduce the breadth of perspective obtained through the core courses that we require, recognizing that some M.S. students will begin with a very specific technical or conceptual focus that they wish to pursue. This will allow flexibility to the students to tailor a program that fits with their overall program objectives and parallels the changes in our Ph.D. program. Overall, the core number of credits required for the M.S. degree is being decreased by three credits. Our two courses proposed are IST 504 (this course is similar to our existing IST 501, which is an overview of IST topics and concepts, but focused on an M.S. program level of study) and IST 505 (a research design course focused on familiarizing the students in the M.S. program with basic research concepts and their application in conducting IST research and research projects). So, our proposed courses have some overlap with the current core courses, but they are more focused and tailored for the students in the M.S. program.

As in our current M.S. program, M.S. students will be able to choose between a thesis option (at least 6 hours of research credit, IST 600) and a scholarly paper option (6 hours of research topics, IST 594). Every M.S. student will have a faculty adviser and mentor beginning in their first semester. Students who are considering eventual pursuit of a Ph.D. in IST or elsewhere will be mentored to choose the thesis option. The only changes for this pathway, beyond the changes to the core courses, are the additional 3 credits of research methods and the reduction in the number of specialized course credits to account for the additional 3 credits of IST 594.

Those whose primary goal is to gain advanced knowledge and skills in the information sciences and technology field may choose to complete a scholarly paper. In this context, “scholarly paper” is defined to be a focused piece of technical work that applies the student’s expertise and knowledge base. The scholarly paper will be submitted to the student’s committee, but the oral defense will be optional. The changes for this option, beyond the changes to the core courses, are an additional 3 credits of research methods and a reduction of 3 credits for specialization.

Note that we expect that many students who choose to enroll in the M.S. program are interested in research careers. This distinguishes them from students seeking a professional degree (e.g., as they can obtain through the M.P.S. programs also offered by this College). It is common for our M.S. graduates to continue their graduate studies in Ph.D. programs at Penn State or elsewhere. However, we also recognize that some M.S. students determine that they are not suited for the advanced study required in doctoral programs. Our revised M.S. program will better meet the needs of both populations of M.S. students.

In concert with the scholarly paper option, we have also modified the requirement for research methods courses. All students will complete at least two methods courses in experimental design, statistics, qualitative methods, or other research methods needed to support the thesis or
scholarly paper. The student’s adviser will work closely with the student to determine the need for additional training in research methods. In general, students who are preparing for research careers will be advised to pursue the thesis option, and these students will be advised to obtain additional training in research methods as part of their specialization courses.

The remainder of the credit hours are allotted to specialization courses, again with the goal of providing M.S. students considerable flexibility in choosing which advanced skills and concepts they will pursue in the program.

As the proposed changes affect only IST courses and students in the IST M.S. program, we do not believe consultation is required.

Graduate Bulletin Description

Information Sciences and Technology (IST)

DAVID L. HALL, Dean, College of Information Sciences and Technology
MICHAEL McNEESE, Senior Associate Dean for Research and Graduate Programs

Office of the Dean
College of Information Sciences and Technology
The Pennsylvania State University
332 Information Sciences and Technology Building
University Park, PA 16802-6823
Dean’s office: 814-865-3528; Graduate office: 814-865-8711

Degree Conferred

Ph.D., M.S., M.P.S. in Information Sciences

The Graduate Faculty

Program Description

The Doctor of Philosophy degree in Information Sciences and Technology offers advanced graduate education for students contemplating careers in academic teaching and research, or research in a non-academic setting. The program is interdisciplinary in nature and expects scholarship at the highest level exhibiting depth of competency in at least one of the core areas of the Information Sciences and Technology and an understanding of the integration of the critical constructs that drive the field: people, information, and technology.
The Master of Science in Information Sciences and Technology is an interdisciplinary degree program that focuses on the theoretical, application-oriented, and educational issues facing a digital, global economy. The program is designed to build an understanding of how information and technology fundamentally impact (and are impacted by) people, organizations, and the world community. Topical areas within IST span a broad range including: human computer interaction, computational techniques, applications (e.g., bio-informatics and geographical information systems), societal issues (such as digital divide issues), user issues (e.g., computer-aided cognition), and information systems design and development providing exposure and grounding in many of the aspects of the information sciences. The program is especially attractive to students interested in gaining state-of-the-art understanding of information technology and its use as a solution in multiple venues.

The Master of Professional Studies in Information Sciences (MPS-IS) is an innovative program that targets professionals and organizational leaders who wish to seek a professional education and training program. The purpose of the professional master program is to produce professionals and organizational leaders who not only can select and draw upon the necessary foundations within the information sciences and information technology areas, test the applicability of these foundations for addressing a given issue, and apply resulted solutions, but also can be aware of the multitude of technological trends and environmental factors that organizations must address in the changing global economy.

The MPS-IS equips students to be able to:

1. Understand and analyze the profound information and technological changes sweeping the world;
2. Meet the challenges by developing innovative solutions using the foundations of information sciences and technology;
3. Have a clear advantage in today’s highly competitive and dynamic environment by continuously learning new trends, issues and innovations.

Admission Requirements

Requirements listed here are in addition to general Graduate Council requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin. Applicants must hold either (1) a baccalaureate degree from a regionally accredited U.S. institution or (2) a tertiary (postsecondary) degree that is deemed comparable to a four-year bachelor’s degree from a regionally accredited U.S. institution. This degree must be from an officially recognized degree-granting institution in the country in which it operates. Applicants are required to submit scores from the general portions of the Graduate Record Examinations (GRE) or the Graduate Management Admissions Test (GMAT), three letters of reference, and a one-three page personal statement of relevant experience research background and goal. In addition, applicants to the Ph.D. and M.S. programs are required to submit a current resume, statement of research interests, and a sample of applicant's writing (e.g., technical paper, etc.). The GRE or GMAT requirement may be waived for applicants to the Professional Master Program if the student has five or more years of relevant information sciences and technology working experience.
Because the program is multidisciplinary in nature, students from many different disciplines may be acceptable for entry into the program. A bachelor's degree in a related area (e.g., engineering and science), while not necessary for admission, is helpful in the successful completion of the degree. It is expected that students will have a basic level of competency in statistics as well as computer and information technology (related work experience can be used to demonstrate such competency). A student may be accepted into the program with "provisional status" for no more than one year while work is completed to meet these expectations.

It is expected that the successful applicant will have an overall grade point average of 3.00 (on a 4.00 scale) or higher for his or her undergraduate study (and/or graduate-level study). However, accomplishments demonstrated through work experience and recommendation letters from the applicant’s academic adviser or employer will also play an important role in making the admission decision. The most qualified applicants will be accepted into the program until all spaces for new students are filled.

The language of instruction at Penn State is English. All 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), with the exceptions noted below. The minimum acceptable score for the TOEFL is 550 for the paper-based test, a total score of 80 with a 19 on the speaking section for the Internet-based test (iBT). Applicants with iBT speaking scores between 15 and 18 may be considered for provisional admission, which requires completion of specified remedial English courses ESL 114G (American Oral English for Academic Purposes) and/or ESL 116G (ESL/Composition for Academic Disciplines) and attainment of a grade of B or higher. The minimum acceptable composite score for the IELTS is 6.5.

International applicants are exempt from the TOEFL/IELTS requirement who have received a baccalaureate or a graduate degree from a college/university/institution in any of the following: Australia, Belize, British Caribbean and British West Indies, Canada (except Quebec), England, Guyana, Republic of Ireland, Liberia, New Zealand, Northern Ireland, Scotland, the United States, and Wales.

Degree Requirements

Doctoral Degree Requirements

The doctoral degree requirements include the general requirements of the Graduate Council as listed under the Doctoral Degree Requirements. To complete a Ph.D. degree, students must in their first semester take the 6-credit introduction to interdisciplinary research methods (IST 501), one of the three foundations courses (IST 510, IST 520, IST 530), and one credit of graduate colloquium (IST 590). In their second semester, students must take the remaining two foundations courses and a second credit of graduate colloquium.

In addition to these first-year requirements, doctoral students must complete 12 credits of research methodology courses selected to introduce or amplify methods relevant to their doctoral
research agenda, and 12 credits of specialization courses, also selected to reinforce their research training.

In addition, all candidates must be competent in the English language and must have demonstrated skills in the communication of ideas both verbally and in writing commensurate with the requirement of scholarly and professional work. The candidacy examination will be used as an occasion to assess English proficiency and plan for remediation (including additional courses, mentoring, or experiences) for all students. A brief critical literature review in three complementary research areas will be included as part of the candidacy assessment process. The foreign language and communication requirement may be fulfilled through demonstrating computer language proficiency (assessed through courses taken) or a minimum of 9 credits of 500-level statistics courses. Students must have completed 18 graduate credits before taking the candidacy exam and must complete the candidacy exam within three semesters. Students must pass the Ph.D. comprehensive examination after completion of most of the course work, usually at the end of the student’s second year in the program. A research-based dissertation must be completed under the direction of the Ph.D. committee, with the student submitting a dissertation proposal and defending that proposal in the defense examination.

General guidance of a doctoral candidate is the responsibility of a doctoral committee consisting of four or more active members of the Graduate Faculty, which includes at least two faculty members in the major field. The dissertation adviser must be a member of the doctoral committee. The dissertation adviser usually serves as chair, but this is not required. If the candidate is also pursuing a dual-title field of study, a co-chair representing the dual-title field must be appointed.

At least one regular 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 committee member is referred to as the "Outside Field Member." In cases where the candidate is also pursuing a dual-title field of study, the dual-title representative to the committee may serve as the Outside Field Member.

Additionally, in order to avoid potential conflicts of interest, the primary appointment of at least one regular member of the doctoral committee must be in an administrative unit that is outside the unit in which the dissertation adviser’s primary appointment is held (i.e., the adviser’s administrative home; in the case of tenure-line faculty, this is the individual’s tenure home). This committee member is referred to as the "Outside Unit Member." In the case of co-advisers, the Outside Unit Member must be from outside the administrative home(s) of both co-advisers. In some cases, an individual may have a primary appointment outside the administrative home of the student’s dissertation adviser and also represent a field outside the student’s major field of study; in such cases, the same individual may serve as both the Outside Field Member and the Outside Unit Member.

M.S. Degree Requirements
The M.S. in Information Sciences and Technology requires a minimum of 30 credits at the 400 level or above, with at least 18 credits at the 500 level or above; 27 of the 30 credits must be earned at University Park. These credits are distributed among the following requirements:

**Core Courses (9-6 credits).** All candidates are expected to develop a broad understanding of the core constructs of people, information, technology, and the significant interactions among those elements by choosing 3 from the following: IST 501, IST 511 or IST 512, IST 521 or IST 522, IST 531 or IST 532, taking IST 502A/504 and IST 502B/505.

**Specialization Courses (12-15 credits).** In consultation with his/her advisor, a candidate is expected to choose courses in one or more areas customized to support the thesis or projectscholarly paper requirement. In addition to advanced courses in IST, a support area could be in law, business, education, engineering, the liberal arts, science, or any area that is linked to the information sciences. Students pursuing the thesis option must take 12 credits of specialization courses; those pursuing the project option must take 15 credits.

**Research Methods (3-6 credits).** All candidates must develop a basic understanding of the research methods utilized in the information sciences, by taking at least one two research methods courses offered in IST or elsewhere. The focus of the course must be on the methods being learned rather than application of some method to a research topic.

**Thesis or ProjectScholarly paper (3-6 credits).** Students may choose a thesis or projectscholarly paper option. Students who choose the thesis option must write a thesis, orally defend the thesis to the thesis committee, and register for 6 credits of IST 600. The thesis should focus on a well-defined problem relevant to the information sciences. Students who choose the projectscholarly paper option must complete a projectscholarly paper, complete an internship (maybe waived for students with prior professional work experience), and register for 3-6 credits of IST 594. The projectscholarly paper is to be a focused piece of technical work that applies the student’s expertise and knowledge base, and that is documented and presented as a projectscholarly paper report, research paper. The student must present the thesis or project in a public presentation and successfully defend the thesis/project to the adviser and committee. Students who choose the projectscholarly paper option must write a scholarly paper/project report and submit to their M.S. committee. An oral presentation is at the discretion of the student’s adviser.

**Language and Communication.** All candidates must be competent in the English language and must have demonstrated skills in the communication of ideas both orally and in writing commensurate with the requirement of professional work. The foreign language and communication requirement may be fulfilled through demonstrating computer language proficiency (assessed through courses taken).

**M.P.S. Degree Requirements**

The MPS-IS program requires a minimum of 33 credits, 24 of which must be earned at Penn State. Up to 9 graduate credits may be transferred in from a regionally accredited institution (as is permissible by the Graduate School). At least 18 credits must be courses at the 500 level and above. A student will first take 9-credits of core courses. The student will then take 12 credits of
prescribed courses for the base program or the Cybersecurity and Information Assurance Option. An additional 9 credits are elective courses. Lastly, the student must complete a master project guided by the student’s adviser. A student can choose to be in the Base Program or in the Cybersecurity and Information Assurance (CIA) Option. These credits are distributed among the following requirements and reflected by completion of 3 credits of IST 594.

**Core Courses (9 credits).** The core of the MPS-IS consists of three courses -- IST 852 or INFSY 540, IST 554, and IST 54816. These courses represent the core technical foundations to study Information Sciences and Technology.

**The Base Program (12 credits of prescribed courses and 9 credits of electives).** The base program consists of four prescribed (required) courses - IST 516816, IST 521 (or IST 522), IST 532 (or IST 531) and IST 564 and 9 credits of elective courses, in addition to the 9-credit core and 3-credit capstone course. It is designed for students who do not have a special interest in mind. The elective courses are chosen in consultation with the student’s adviser. Hence, it offers the flexibility that enables the student to build an in-depth knowledge and skills about information sciences tailored to his/her interests and background. Students from Harrisburg region can also select courses from Penn State Harrisburg to fulfill the prescribed courses (by substitution) and 9 credits of electives.

**Cybersecurity and Information Assurance (CIA) Option (12 credits of prescribed courses and 9 credits of electives).** The CIA option consists of four prescribed (required) courses, IST 815, IST 555, IST 456, and IST 885, and 9 credits of elective courses selected from: IST 451, 454, 564, or IN SC 561, or other courses from a list of approved electives that is maintained by the head of the graduate program and is available from the program office., in addition to the 9-credit core and three 3-credit capstone courses. These courses enable the student to focus on developing knowledge and skills for information analysis, information assurance and decision support including theories, techniques, and applications of data mining, data fusion, information search, information security, and intelligent resource allocation.

**Master Project (3 credits).** The project requires all students in the MPS-IS to focus on a well-defined issue or problem relevant to the information sciences and technology. The student will submit a project proposal to his/her faculty adviser for approval. Upon completion of the project, the student will share or present the project results at a final presentation as a component of IST 594.

**Language and Communication.** All candidates must be competent in the English language and must have demonstrated skills in the communication of ideas both orally and in writing commensurate with the requirement of professional work. The foreign language and communication requirement may be fulfilled through demonstrating computer language proficiency (assessed through courses taken).

**Courses**

Graduate courses carry numbers from 500 to 699 or 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.

INFORMATION SCIENCES AND TECHNOLOGY (IST) course list
Graduate Council
Program, Option, or Minor Proposal Form

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

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

College/School: Penn State College of Medicine
Department or Instructional Area: Public Health Sciences

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: Public Health
Current designation of graduate option: n/a
Current designation of graduate minor: n/a

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

Brief description of the change (if not noted above): Reducing program from 47 to 45 credits by removing course requirement.

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

Submitted by Graduate Program Head

Wenke Hwang
Printed name
Signature

Date: 11/5/2015

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

Gail Mather
Printed name
Signature

Date: 11/5/2014

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

Michael Verdina
Printed name
Signature

Date: 11/17/2014
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On behalf of C. Andrew Cole  
Printed name
Signature
Date: 12/11/14

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

On behalf of Joan Redwing  
Printed name
Signature
Date: 12/11/14

Noted by Dean of the Graduate School:

Regina Vasiletos-Younken  
Printed name
Signature
Date: 12/12/14
I. Justification for Proposed Changes............................................. 2
II. Overview of Program Changes: Side by Side Comparison............ 4
III. Description of Proposed Changes.............................................. 6
IV. Proposed Graduate Bulletin..................................................... 7
V. Proposed Graduate Bulletin with Track Changes......................... 9
VI. Letters of Support.....................................................................
    (1) Vernon M. Chinchilli, PhD................................................. 13
    (2) Collins Airhihenbuwa, PhD............................................... 14
    (3) Marianne Hillemeier, PhD................................................ 15
    (4) Steven A. Peterson, PhD................................................ 16
VII. Attachments
    (1) Framing the Future: A Master of Public Health Degree for
        the 21st Century.............................................................. 17
I. Justification for Proposed Changes

We respectfully submit this program change proposal to reduce the Master of Public Health (MPH) in Public Health program’s total credits from 47 credits to 45 credits. To achieve this goal, we propose to remove PHS 802: Practice of Public Health (2 credits) from the program’s core requirements.

Changes to the MPH in Public Health program are being proposed at this time to:
(1) Strengthen the curriculum by removing redundancies; and
(2) Respond to national recommendations on the design of MPH programs.

Each goal is described below:

1. Strengthen the curriculum. The MPH in Public Health program is competency-based. All courses in the program map to specific public health competencies – the abilities that students should have upon completion of the program. After careful review of the program’s competencies,* student feedback provided through PHS 802 course evaluations, and PHS 802 course director input, we have come to the following conclusions:
   a. The content taught in PHS 802 is redundant. PHS 802 is an advanced, second-year course that reinforces core knowledge and skills that were already primarily gained in more foundational core courses. No competencies are primarily gained in PHS 802, meaning that no unique content is taught.
   b. The competencies taught in PHS 802 are more appropriate for and already primarily gained in more foundational courses, including PHS 501: Principles of Public Health, a core course that students complete in their first semester.
   c. While reinforcement of core competencies is important, core competencies are substantially and sufficiently reinforced through students’ advanced track courses, electives, the required internship, and the required capstone. PHS 802 as a mechanism to reinforce core competencies is not necessary.
   d. PHS 802 can be removed from the curriculum without negative impacts to the students or curriculum.

2. Respond to national recommendations. In January 2014, the Association of Schools and Programs in Public Health released Framing the Future: A Master of Public Health Degree for the 21st Century (see attachment #2). The report was drafted by an MPH expert panel made up Deans of schools of public health, Directors of MPH programs, and representation from the Council on Education for Public Health (CEPH), the national accrediting body for MPH programs and schools of public health. In the report, the panel of experts proposed a set of best practices for the design of MPH programs. Included in the report are the following recommendations:

   • Page 3 of the report: “The minimum number of credit hours for an MPH degree should not be increased beyond the current minimum of 42. To do otherwise would contradict rising concerns about length of time to degree and tuition costs.”
   • Page 3 of the report: “The MPH degree should be based on a rigorous, structured, and carefully sequenced curriculum that may require prerequisite learning.”

*Please see Section III. Description of Proposed Changes for the competencies that pertain to this proposal.
• Page 4 of the report: “The core should typically comprise no more than a third of the content or credits of a newly designed MPH degree but may be more, depending on student interests, local needs, and institutional orientation.”

We highlight these specific recommendations as they relate to goals one and two of this proposal. The first recommendation addresses our second goal to address student barriers. Currently, the MPH in Public Health program requires a minimum of 47 credits. This figure is above the panel’s recommended total of 42 credits. In addition, the figure is above the minimum credit total (42 credits) required by CEPH to be eligible for accreditation. Finally, the figure is well above the minimum required credits (30 credits) for graduate programs at Penn State.

To investigate this issue further, we examined credit requirements for all 159 CEPH-accredited MPH programs and schools of public health. Of the programs and schools for which credits could be determined and were domestic institutions (n=141), we learned that only 21 percent of programs require 47 or more credits to graduate. In addition, Pennsylvania is home to eight MPH programs. Penn State’s program has the highest credit total among the seven programs for which the credit total could be determined.
II. Overview of Program Changes: Side by Side Comparison

The two-part table below provides a side-by-side comparison of the current MPH in Public Health curriculum (47 credits) and proposed core curriculum (45 credits). Changes are presented in boldface type and highlighted in yellow.

<table>
<thead>
<tr>
<th>Core Courses that all MPH in Public Health Students are Required to Complete (29 credits)</th>
<th>Core Courses that all MPH in Public Health Students are Required to Complete (27 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHS 504: Behavioral Health Intervention Strategies (3) or BB H 504: Behavioral Health Intervention Strategies (3) (University Park)</td>
<td>PHS 504: Behavioral Health Intervention Strategies (3) or BB H 504: Behavioral Health Intervention Strategies (3) (University Park)</td>
</tr>
<tr>
<td>PHS 520: Principles of Biostatistics (3)</td>
<td>PHS 520: Principles of Biostatistics (3)</td>
</tr>
<tr>
<td>PHS 536: Health Survey Research Methods (3)</td>
<td>PHS 536: Health Survey Research Methods (3)</td>
</tr>
<tr>
<td>PHS 542: Environmental Health Sciences (3)</td>
<td>PHS 542: Environmental Health Sciences (3)</td>
</tr>
<tr>
<td>PHS 550: Principles of Epidemiology (3)</td>
<td>PHS 550: Principles of Epidemiology (3)</td>
</tr>
<tr>
<td>PHS 571: Health Services Organization and Delivery or HPA 520: Introduction to Health Services Organizations and Delivery (3) (University Park)</td>
<td>PHS 571: Health Services Organization and Delivery or HPA 520: Introduction to Health Services Organizations and Delivery (3) (University Park)</td>
</tr>
<tr>
<td>PHS 802: Practice of Public Health (2)</td>
<td><strong>PHS 802: Practice of Public Health (2)</strong></td>
</tr>
<tr>
<td>PHS 895A: Master of Public Health Internship (3)</td>
<td>PHS 895A: Master of Public Health Internship (3)</td>
</tr>
<tr>
<td>PHS 894: Capstone Experience (3)</td>
<td>PHS 894: Capstone Experience (3)</td>
</tr>
<tr>
<td>Current Curriculum (47 credits)</td>
<td>Proposed Curriculum (45 credits)</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td><strong>Electives (18 credits)</strong></td>
<td><strong>Electives (18 credits)</strong></td>
</tr>
<tr>
<td>• Students may (1) select from a pre-approved list of electives or (2) propose alternate electives for consideration and approval by the program.</td>
<td></td>
</tr>
<tr>
<td>• In addition to fulfilling the 18-credit elective requirement by selecting courses from the pre-approved list or by proposing alternate courses for consideration, students may specialize in a track for depth of training by selecting a specific configuration of pre-approved electives. Examples of tracks include:</td>
<td></td>
</tr>
<tr>
<td>• Community and Behavioral Health</td>
<td></td>
</tr>
<tr>
<td>o PHS 505: Public Health Program Planning and Evaluation (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 506: Behavioral Health Intervention Strategies II (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 807: Public Health Education Methods (3)</td>
<td></td>
</tr>
<tr>
<td>• Epidemiology and Biostatistics</td>
<td></td>
</tr>
<tr>
<td>o PHS 521: Applied Biostatistics (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 522: Multivariate Biostatistics (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 551: Advanced Epidemiological Methods (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 580: Clinical Trials Design and Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 801: Data Management (1)</td>
<td></td>
</tr>
<tr>
<td>• Health Systems Organization and Policy</td>
<td></td>
</tr>
<tr>
<td>o PHS 535: Quality of Care Measurement (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 537: Health Policy and Law (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 540: Decision Analysis (1)</td>
<td></td>
</tr>
<tr>
<td>o PHS 570: Health Economics and Economic Evaluation (3)</td>
<td></td>
</tr>
<tr>
<td>• Students may (1) select from a pre-approved list of electives or (2) propose alternate electives for consideration and approval by the program.</td>
<td></td>
</tr>
<tr>
<td>• In addition to fulfilling the 18-credit elective requirement by selecting courses from the pre-approved list or by proposing alternate courses for consideration, students may specialize in a track for depth of training by selecting a specific configuration of pre-approved electives. Examples of tracks include:</td>
<td></td>
</tr>
<tr>
<td>• Community and Behavioral Health</td>
<td></td>
</tr>
<tr>
<td>o PHS 505: Public Health Program Planning and Evaluation (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 506: Behavioral Health Intervention Strategies II (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 807: Public Health Education Methods (3)</td>
<td></td>
</tr>
<tr>
<td>• Epidemiology and Biostatistics</td>
<td></td>
</tr>
<tr>
<td>o PHS 521: Applied Biostatistics (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 522: Multivariate Biostatistics (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 551: Advanced Epidemiological Methods (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 580: Clinical Trials Design and Analysis (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 801: Data Management (1)</td>
<td></td>
</tr>
<tr>
<td>• Health Systems Organization and Policy</td>
<td></td>
</tr>
<tr>
<td>o PHS 535: Quality of Care Measurement (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 537: Health Policy and Law (3)</td>
<td></td>
</tr>
<tr>
<td>o PHS 540: Decision Analysis (1)</td>
<td></td>
</tr>
<tr>
<td>o PHS 570: Health Economics and Economic Evaluation (3)</td>
<td></td>
</tr>
</tbody>
</table>
III. Description of Proposed Changes

We propose to reduce the MPH in Public Health total credits from 47 credits to 45 credits. To achieve this aim, we propose to remove PHS 802: Practice of Public Health (2 credits) from the core requirements. As per the justification, the course competencies are already primarily gained in more foundational core required courses. Because the competencies addressed in PHS 802 are primarily gained in other core courses, the removal of PHS 802 will not require any existing core course to pick up the competencies from PHS 802.

The table below presents the public health competencies that are currently reinforced in PHS 802 and the core courses through which the competencies are already primarily gained.

<table>
<thead>
<tr>
<th>Competencies Reinforced in PHS 802</th>
<th>Core Courses that Primarily Address Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply evidence-based practice to the design of public health interventions.</td>
<td>PHS 504: Behavioral Health Intervention Strategies</td>
</tr>
<tr>
<td>2. Communicate public health information and issues effectively to diverse audiences through multiple communication channels.</td>
<td>PHS 536: Health Survey Research Methods</td>
</tr>
<tr>
<td>3. Explain the infrastructure the U.S. public health system.</td>
<td>PHS 501: Principles of Public Health</td>
</tr>
<tr>
<td>4. Discuss the ethical choices, values and professional practices implicit in public health decisions, considering the effect of those choices on social justice and accountability.</td>
<td>PHS 501 and PHS 542: Environmental Health Sciences</td>
</tr>
<tr>
<td>5. Demonstrate leadership in public health.</td>
<td>PHS 536</td>
</tr>
<tr>
<td>6. Discuss the commitment to lifelong learning and professional service including active participation in professional organizations.</td>
<td>PHS 501</td>
</tr>
<tr>
<td>7. Explain the importance of the contexts of gender, race, poverty, history, migration, and culture in public health practice.</td>
<td>PHS 501 and PHS 542</td>
</tr>
</tbody>
</table>

Regarding the institutional Scholarship and Research Integrity ethics training requirement: In November 2014, the MPH in Public Health leadership worked with the Scholarship and Research Integrity (SARI) Program in the Office of Research Protections at University Park to update its SARI program plan. Specifically, PHS 802 was removed from the plan, and it was noted that the required five hours of responsible conduct of research (RCR) classroom-based discussion and training will be delivered solely through PHS 501: Principles of Public Health.
IV. Proposed Graduate Bulletin

Public Health (PH)

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:
M.P.H.

The Graduate Faculty

The Program
The Master of Public Health (M.P.H.) in Public Health program is a professional degree program that builds knowledge and skills in the five core areas of public health: biostatistics, environmental health sciences, epidemiology, health services administration, and social and behavioral sciences. In addition, the M.P.H. in Public Health program advances expertise in community and behavioral health, epidemiology and biostatistics, and health systems organization and policy. The M.P.H. degree leads to careers in a wide variety of fields and settings, including local, state, and federal government agencies; health care settings; health insurance industry; health services networks; nonprofits; and the pharmaceutical industry.

Admission Requirements

Admission to the Penn State MPH Program is granted jointly by the MPH Program and the Graduate School at Penn State.

For admission to the MPH Program, applicants must submit:

- Completed online Graduate School application with nonrefundable application fee
- Resume or curriculum vitae
- Statement of purpose
- Two letters of recommendation
- Two official transcripts from all colleges and universities attended
- Official scores from one of the following standardized tests taken within the past five years: Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), Medical College Admission Test (MCAT), or Law School Admission Test (LSAT)

Standardized Test Requirement Wavier 1: This requirement is waived for applicants who have an advanced degree beyond the baccalaureate.

Standardized Test Requirement Wavier 2: This requirement may be waived for applicants who, prior to submitting the application for admission, have successfully completed (with a grade of B or better in each course):
  - At least one 3-credit graduate-level course in biostatistics; AND
  - At least one 3-credit graduate-level course in epidemiology; AND
  - At least one 3-credit graduate-level course in the social and behavioral sciences or health services administration core areas of public health
For admission to the Graduate School, an applicant must hold either (1) a baccalaureate degree from a regionally accredited U.S. institution or (2) a tertiary (postsecondary) degree that is deemed comparable to a four-year bachelor's degree from a regionally accredited U.S. institution. This degree must be from an officially recognized degree-granting institution in the country in which it operates.

The language of instruction at Penn State is English. All 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), with the exceptions noted below. The minimum acceptable score for the TOEFL is 550 for the paper-based test, or a total score of 80 with a 19 on the speaking section for the internet-based test (iBT). Applicants with iBT speaking scores between 15 and 18 may be considered for provisional admission, which requires completion of specified remedial English courses ESL 114G (American Oral English for Academic Purposes) and/or ESL 116G (ESL/Composition for Academic Disciplines) and attainment of a grade of B or higher. The minimum acceptable composite score for the IELTS is 6.5.

International applicants are exempt from the TOEFL/IELTS requirement who have received a baccalaureate or a graduate degree from a college/university/institution in any of the following: Australia, Belize, British Caribbean and British West Indies, Canada (except Quebec), England, Guyana, Republic of Ireland, Liberia, New Zealand, Northern Ireland, Scotland, the United States, and Wales.

M.P.H. Degree Requirements

MPH students must complete a total of 45 credits of graduate level course work, the majority of which are 500 level courses, specifically:

- 27 credits in prescribed courses, including:
  - 21 credits of core classroom-based courses
  - 3 credit practicum experience
  - 3 credit capstone
- 18 credits in elective courses

The capstone course provides the students with the knowledge and skills to design, carry out, and present a scholarly public health project based upon competencies gained in previous courses. Topics include defining a scholarly project, selecting a topic and project type, describing the problem, reviewing the literature, identifying project methodology, presenting project results, ethics and scholarly work, writing and critiquing scholarly work, and creating and delivering a poster presentation.

Prescribed Courses: 27 credits

PHS 501(3), PHS 504(3) or BB H 504(3), PHS 520(3), PHS 536(3), PHS 542(3), PHS 550(3), PHS 571(3) or H P A 520, PHS 894(3), PHS 895A(3).

Additional Courses: 18 credits

The 18 credits of electives may be selected from a list of approved courses that is maintained by the graduate program office. Multiple tracks of specialization are available. Please visit www.mphprogram.psu.edu to learn more about the approved elective courses and available tracks.

PUBLIC HEALTH (PH) course list
V. Proposed Graduate Bulletin with Track Changes

Public Health (PH)
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:
M.P.H.

The Graduate Faculty
The Program
The Master of Public Health (M.P.H.) in Public Health program is a professional degree program that
builds knowledge and skills in the five core areas of public health: biostatistics, environmental health
sciences, epidemiology, health services administration, and social and behavioral sciences. In addition,
the M.P.H. in Public Health program advances expertise in community and behavioral health,
edemiology and biostatistics, and health systems organization and policy. The M.P.H. degree leads to
careers in a wide variety of fields and settings, including local, state, and federal government agencies;
health care settings; health insurance industry; health services networks; nonprofits; and the
pharmaceutical industry.

Admission Requirements

Admission to the Penn State MPH Program is granted jointly by the MPH Program and the Graduate
School at Penn State.

For admission to the MPH Program, applicants must submit:

- Completed online Graduate School application with nonrefundable application fee
- Resume or curriculum vitae
- Statement of purpose
- Two letters of recommendation
- Two official transcripts from all colleges and universities attended
- Official scores from one of the following standardized tests taken within the past five years:
  Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), Medical
  College Admission Test (MCAT), or Law School Admission Test (LSAT)

Standardized Test Requirement Wavier 1: This requirement is waived for applicants who have
an advanced degree beyond the baccalaureate.
Standardized Test Requirement Wavier 2: This requirement may be waived for applicants who,
prior to submitting the application for admission, have successfully completed (with a grade of B
or better in each course):

- At least one 3-credit graduate-level course in biostatistics; AND
- At least one 3-credit graduate-level course in epidemiology; AND
- At least one 3-credit graduate-level course in the social and behavioral sciences or
  health services administration core areas of public health
For admission to the Graduate School, an applicant must hold either (1) a baccalaureate degree from a regionally accredited U.S. institution or (2) a tertiary (postsecondary) degree that is deemed comparable to a four-year bachelor's degree from a regionally accredited U.S. institution. This degree must be from an officially recognized degree-granting institution in the country in which it operates.

The language of instruction at Penn State is English. All 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), with the exceptions noted below. The minimum acceptable score for the TOEFL is 550 for the paper-based test, or a total score of 80 with a 19 on the speaking section for the internet-based test (iBT). Applicants with iBT speaking scores between 15 and 18 may be considered for provisional admission, which requires completion of specified remedial English courses ESL 114G (American Oral English for Academic Purposes) and/or ESL 116G (ESL/Composition for Academic Disciplines) and attainment of a grade of B or higher. The minimum acceptable composite score for the IELTS is 6.5.

International applicants are exempt from the TOEFL/IELTS requirement who have received a baccalaureate or a graduate degree from a college/university/institution in any of the following: Australia, Belize, British Caribbean and British West Indies, Canada (except Quebec), England, Guyana, Republic of Ireland, Liberia, New Zealand, Northern Ireland, Scotland, the United States, and Wales.

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

Satisfactory completion of at least one college-level statistics or other math course.
Results from one of the following standardized tests taken within the past five years:
Graduate Record Examination (GRE)
Graduate Management Admission Test (GMAT)
Medical College Admission Test (MCAT)
Law School Admission Test (LSAT)

M.P.H. Degree Requirements

MPH students must complete a total of 47-45 credits of graduate level course work, the majority of which are 500 level courses, specifically:

- **29-27** credits in prescribed courses, including:
  - **23-21** credits of core classroom-based courses
  - 3 credit practicum experience
  - 3 credit capstone culminating experience
- **18** credits in elective courses

The capstone course provides the students with the knowledge and skills to design, carry out, and present a scholarly public health project based upon competencies gained in previous courses. Topics include defining a scholarly project, selecting a topic and project type, describing the problem, reviewing the literature, identifying project methodology, presenting project results, ethics and scholarly work, writing and critiquing scholarly work, and creating and delivering a poster presentation.

Prescribed Courses: **29-27** credits

PHS 501(3), PHS 504(3) or BB H 504(3), PHS 520(3), PHS 536(3), PHS 542(3), PHS 550(3), PHS 571(3) or H
Additional Courses: 18 credits

The 18 credits of electives may be selected from a list of approved courses that is maintained by the graduate program office. Multiple tracks of specialization are available. Please visit www.mphprogram.psu.edu to learn more about the approved elective courses and available tracks.

PUBLIC HEALTH (PH) course list


Students may select from the above pre-approved electives to specialize in one of three tracks outlined below:

Community and Behavioral Health Track: The Community and Behavioral Health track builds skills necessary to effectively plan, implement, and evaluate public health interventions. Track-specific courses include:
PHS 505. Public Health Program Planning and Evaluation (3)
PHS 506. Behavioral Health Intervention Strategies II (3)
PHS 807. Public Health Education Methods (3)

Epidemiology and Biostatistics Track: The Epidemiology and Biostatistics track builds analytical and statistical skills necessary to conduct epidemiological studies and test hypotheses regarding the association or causality of risk factors and health outcomes in populations. Track-specific courses include:
PHS 521. Applied Biostatistics (3)
PHS 522. Multivariate Biostatistics (3)
PHS 551. Advanced Epidemiological Methods (3)
PHS 580. Clinical Trials Design and Analysis (3)
PHS 801. Data Management (1)

Health Systems Organization and Policy Track: The Health Systems Organization and Policy track builds skills related to the analysis and implementation of healthcare delivery models and systems, health economics, and applied public health policy. Track-specific courses include:
PHS 535. Quality of Care Measurement (3)
PHS 537. Health Policy and Law (3)
PHS 540. Decision Analysis (1)
PHS 570. Health Economics and Economic Evaluation (3)

Students may choose any courses from the listing of pre-approved electives to fulfill the remaining elective requirements.
VI. Letters of Support

(1) Vernon M. Chinchilli, PhD
(2) Collins Airhihenbuwa, PhD
(3) Marianne Hillemeier, PhD
(4) Steven A. Peterson, PhD
From: MARIANNE HILLEMEIER [mailto:mmh18@psu.edu]
Sent: Thursday, November 13, 2014 1:31 PM
To: Farah Kauffman
Subject: Re: Email of Support for Program's Reduction in Credits

I am in support of the proposed changes.

Marianne Hillemeier
Professor and Department Head
Health Policy and Administration
The Pennsylvania State University
604E Ford
University Park, PA 16802
814-863-0873

From: Farah Kauffman
Sent: Monday, November 03, 2014 2:35 PM
To: mmh18@psu.edu
Subject: Requesting Your Support
Importance: High

Hello, Marianne!

I hope you are well. Recently I requested your support of an MPH program proposal to offer a hybrid MPH program. This would allow us to offer five core required courses online.

At this time, I’m requesting your support of another proposal to reduce the MPH program from 47 credits to 45 credits. I have attached the justification and side-by-side comparison for your review.

Please let me know if you support our proposed changes or if you have recommended edits.

Thank you, Marianne!

Farah

Farah Kauffman, MPH
Deputy Director
Penn State Master of Public Health (MPH) Program
Dear Farah,
I am in full support of this proposed change. Take care.
Collins

-  
Collins O. Airhihenbuwa PhD, MPH, Professor and Head, 
Department of Biobehavioral Health, 
Director, the Pan University Network for Global Health  
219D, Biobehavioral Health Building, 
Penn State University, University Park, PA 16802, 
Tel: 814-863.7256 (ask for Jodi), 
Direct line: 814-865-1382, Fax: 814-863-7525, 
Home page:  http://bbh.hhdev.psu.edu/lab/ca/index.html

"Be comfortable with being uncomfortable"

---

From: "Farah Kauffman" <FKAUFFMA@phs.psu.edu>  
To: "Collins Airhihenbuwa" <aou@psu.edu>  
Sent: Monday, November 3, 2014 2:34:35 PM  
Subject: Requesting Your Support

Hello, Collins!

I hope you are well. Recently I requested your support of an MPH program proposal to offer a hybrid MPH program. This would allow us to offer five core required courses online.

At this time, I’m requesting your support of another proposal to reduce the MPH program from 47 credits to 45 credits. I have attached the justification and side-by-side comparison for your review.

Please let me know if you support our proposed changes or if you have recommended edits.

Thank you, Collins!

Farah

Farah Kauffman, MPH  
Deputy Director  
Penn State Master of Public Health (MPH) Program
From: STEVEN AMES PETERSON [mailto:sap12@psu.edu]
Sent: Tuesday, November 04, 2014 2:16 PM
To: Farah Kauffman
Subject: Re: Requesting Your Support

The movement downward in required credits seems to me to be a very good move--for reasons that you have outlined. Every so often, it can be good to take a "hard look" at curriculum.

At any rate, this appears well thought out and a very sensible initiative. I am very supportive of this endeavor.

Steve Peterson

Steven A. Peterson
Director, School of Public Affairs
Penn State Harrisburg
777 W. Harrisburg Pike
Middletown, PA 17057

Phone: 717-948-6154
E-mail: sap12@psu.edu

From: "Farah Kauffman" <FKAUFFMA@phs.psu.edu>
To: sap12@psu.edu
Sent: Monday, November 3, 2014 2:36:04 PM
Subject: Requesting Your Support

Hello, Dr. Peterson.

I hope you are well. Recently I requested your support of an MPH program proposal to offer a hybrid MPH program. This would allow us to offer five core required courses online.

At this time, I’m requesting your support of another proposal to reduce the MPH program from 47 credits to 45 credits. I have attached the justification and side-by-side comparison for your review.

Please let me know if you support our proposed changes or if you have recommended edits.

Thank you!

Farah

Farah Kauffman, MPH
Deputy Director
Penn State Master of Public Health (MPH) Program
VII. Attachments

Framing the Future: A Master of Public Health Degree for the 21st Century
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 Engineering
Department or Instructional Area: Computer Science and 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: Master of Engineering in Computer Science and Engineering
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): Modifications to change the program to a one-year professional degree program.

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

Submitted by Graduate Program Head
Raj Acharya, Head, Dept of Computer Science and Engineering
Printed name
Signature
Date: 11/20/19

Noted by College/School Representative to Graduate Council Subcommittee on New and Revised Programs and Courses:
Lee Corcor
Printed name
Signature
Date: 11/20/19

Approved by College/School Dean/Chancellor (or Designee):
Catherine M. Harmonson
Printed name
Signature
Date: 11/20/19
Recommended by Chair, Graduate Council Subcommittee on New and Revised Programs and Courses:

On behalf of C. Andrew Cole                      Date: 12/20/14
Printed name: _____________________________    Signature: __________________

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

On behalf of Joan Redwing                      Date: 12/11/14
Printed name: _____________________________    Signature: __________________

Noted by Dean of the Graduate School:

Regina Vasileatos-Younker                      Date: 12/12/14
Printed name: _____________________________    Signature: __________________
Proposal for changes to existing MEng program
Department of Computer Science and Engineering
October, 2014

Contacts

Lee Coraor
Director of Academic Affairs
Associate Professor of Computer Science and Engineering
coraor@cse.psu.edu  (814) 865-1265

Raj Acharya
Department Head
Professor of Computer Science and Engineering
acharya@cse.psu.edu  (814) 865-9505
### Table of Contents

1. Justification for proposed changes  
   Page 3
2. Comparison of old and new requirements  
   Page 3
3. Library consultation  
   Page 4
4. Responses from affected departments / letters of consultation  
   Page 4
5. Impact on other programs  
   Page 5
6. SARI requirements  
   Page 5
7. Faculty resources  
   Page 5
8. Technology requirements  
   Page 5
Graduate Bulletin, proposed changes highlighted for clarity  
Attachment 1
Graduate Bulletin, revised  
Attachment 2
Original letters of consultation  
Attachment 3
This proposal explicates the details of modifying the department's current MEng program into a one-year resident program, to be launched fall 2015.

1. Justification for proposed changes
With the huge upswing in computer science and engineering (CSE) undergraduate students, there is and will be a concomitant increase in the demand for graduate programs in computer science and engineering. In addition, with the speed of change of the computer science and engineering field and lack of support at the high school level, it's increasingly difficult to fully educate students within the confines of an undergraduate degree. Thus, the demand for master's degrees in computer science and engineering is expecting to continue to rise. According to the Bureau of Labor Statistics, occupations that require a master's degree are projected to grow the fastest between now and 2022. According to Forbes, a master's degree in computer science ties for first place with physician's assistant in occupational potential of graduate studies.

Penn State currently receives around 1000 applications for their graduate program in computer science and engineering. The societal demand for a graduate degree in CSE is huge.

It is part of the mission of the University and the College of Engineering to respond to societal needs. We see expanding the availability of master's level computer science and engineering programs as an important aspect of the department's future. However, maintaining quality while handling a large influx of students is a major challenge. This program includes a plan to enable the department to offer and manage a high-quality program that meets the needs of the students, employers, and society at large.

Enrollments for this program are expected to be capped at fifty students per cohort, although an initial cohort of fifteen to twenty students will be enrolled during the first year. Students will initially be drawn from the existing pool of applications, being invited into the program on a competitive basis if they have not been selected for a PhD or MS program. Since the existing MEng program is underutilized, the addition of this program will not affect enrollments of any existing program.

Students must start in the fall term and continue with their cohort, finishing in the summer. Students who do not make sufficient progress in the program will not be allowed to continue to the next semester.

2. Comparison of old and new requirements
The current MEng in computer science and engineering contains three main categories of requirement beyond the basic background expected to be obtained from a bachelor's degree program: (1) Breadth courses, requiring the student to take at least one course from three of the five following categories: architecture and communications systems, systems, theory, application, and hardware systems design (nine credits). (2) One depth course, selected from a qualified list. (3) Twelve additional graduate credits in computer science and engineering, with a limit of three credits on courses considered to be background. (4) Colloquium. (5) A research paper.

The new program will be focused on students who wish to pursue industrial positions and for whom the master's degree likely will be a terminal degree. Thus, it is especially important that these students obtain a strong background in a broad array of subjects to be optimally prepared for future work in industry. Toward this end, the new MEng program will consist of three core 400-level courses, five elective courses at the 500 level, a required (new) 800 level course in project management, and a three credit capstone experience (594). The details of this new program are shown in Table 1.
MEng 1 year program

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Summer Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPSC 465: Algorithms and data structures</td>
<td>OR</td>
<td>CMPEN 431: Intro to computer architecture and CMPEN 472: Microprocessors and embedded systems</td>
</tr>
<tr>
<td>CMPSCI 443: Computer and network security and CMPSCI 431W: Database management systems</td>
<td>4 courses (12 credits) at the 500 level</td>
<td>CSE 820 (3 credits): Software &amp; Hardware Project Management – delivered online.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSE 594 (3 credits): Research topics – delivered online.</td>
</tr>
</tbody>
</table>

One, 3-credit 500 level course.

Table 1

Table 2 shows the old and new requirements side-by-side.

Side-by-side comparison

<table>
<thead>
<tr>
<th>Existing MEng Program</th>
<th>New MEng Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breadth courses</td>
<td>Breadth requirement handled by required core courses.</td>
</tr>
<tr>
<td>Depth course</td>
<td>Depth course selections conferred to the student.</td>
</tr>
<tr>
<td>Additional coursework</td>
<td>Equivalent.</td>
</tr>
<tr>
<td>Colloquium</td>
<td>Removed.</td>
</tr>
<tr>
<td>Research paper</td>
<td>Replaced by culminating experience which includes a professional paper.</td>
</tr>
</tbody>
</table>

Table 2

Attachment 1 shows the current Graduate Bulletin description, along with proposed changes.

3. Library consultation

This is a modification to an existing program, and thus there is no discernable impact on library resources.

4. Responses from affected departments / letters of consultation

Attachment 3 includes responses from affected departments. No negative responses were received.
5. Impact on other programs

This is a modification to an existing program, and thus there is no discernable impact on other departments.

6. SARI requirements

This is a change to an existing program, and the changes do not effect previously approved SARI requirements for the program.

7. Faculty Resources

The CSE department currently consists of 15 professors, 12 associate professors, 3 assistant professors (tenured/tenure track), and 9 instructors. Of these, 27 are tenured, and 30 are approved for graduate courses.

The initial cohort for this program is anticipated to be fifteen to twenty, and thus the increase to faculty load is manageable during the first year. In subsequent years, when the cohorts increase to 50, extra faculty lines are planned, funded by the MEng program.

8. Technology requirements

No additional technology requirements are anticipated for this program change.
Attachment 1: Graduate Bulletin, proposed changes highlighted for clarity

Computer Science and Engineering (CSE)

Raj Acharya, Head of the Department
111 Information Sciences and Technology Building
814-865-9505

Degrees Conferred:

Ph. D., M.S., M.Eng.

The Graduate Faculty

The Program

The department offers courses and is prepared to direct research in a variety of subfields of computer science and engineering, including VLSI, computer architecture, parallel/distributed processors and interconnection networks, pattern recognition and image processing, performance evaluation, reliability, fault tolerance, theory of computation, computer systems, numerical analysis and optimization, programming methodology, and analysis of algorithms. Research and instruction are supported by extensive computing facilities within the University's Information Technology Services and by the computer laboratories operated by the department.

For information about areas of specialization, laboratory and research facilities, fellowships assistantships, and other sources of financial assistance, please refer to our Web site: www.csee.psu.edu.

Admission Requirements

All applicants must provide a one-page statement of purpose and scores from the Graduate Record Examinations (GRE) Aptitude Test (verbal, quantitative, and analytical). A subject test in the GRE is not required, but the subject test in Computer Science is recommended. Those students seeking an assistantship in Computer Science and Engineering are required to submit a Test of Spoken English (TSE) or the TOEFL IBT. A score of 26 on the speaking section of the TOEFL IBT is equivalent to passing the TSE. A lower score would require remedial English as a Second Language courses. For score reporting for TOEFL and TSE, our institution code is 2660 and our department code is 78.

English Proficiency—The language of Instruction at Penn State is English. 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), with the exceptions noted below. The minimum acceptable score for the TOEFL is 550 for the paper-based test, 213 for the computer-based test, or a total score of 80 with a 20 on the speaking section for the Internet-based test. The minimum composite score for the IELTS is 6.5. Specific graduate programs may have more stringent requirements.

International applicants are exempt from the TOEFL/IELTS requirement who have received a baccalaureate or a master's degree from a college/university/institution in any of the following: Australia, Belize, British Caribbean and British West Indies, Canada (except Quebec), England, Guyana, Republic of Ireland, Liberia, New Zealand, Northern Ireland, Scotland, the United States, and Wales.

Specific graduate programs may require all international applicants to submit a TOEFL or IELTS score, regardless of their academic background and country of origin.

Information about the TOEFL can be obtained by writing to the Educational Testing Service, Box 6155, Princeton, NJ 08541-6155 or visiting its Web site at www.toefl.org. Local administration at University Park campus of the TOEFL is handled by the IEC. Information about the IELTS can be obtained by contacting IELTS International, 100 East Corson Street, Suite 200, Pasadena, CA 91103 or visiting its Web site at www.ielts.org.

Master's Degree Requirements

Candidates for the master's degree must satisfactorily complete the requirements of the Graduate School. In addition, all students are expected to have completed appropriate courses in computer architecture and machine organization, data structures and analysis of algorithms, programming languages, operating systems, and logical design/switching theory or theory of automata. Students who do not meet background requirements will be required to take the appropriate 400-level courses to prepare them for the 500-level courses. At most, 3 credits of background course work can be used to satisfy the degree requirements, except as specified for the M.Eng. degree. Students admitted to the M. S. program will not be permitted to switch to the M. Eng. program at a later time, except under extenuating circumstances.

Master of Science students must take 15 credits of courses numbered CSE 500 through 589, including a minimum of 9 credits of breadth courses taken from the department's Graduate Handbook in Computer Science and Engineering. An additional 9 credits of 400-level courses and above (excluding
independent studies courses and ENGR 588) are required (see Handbook). This must include at least 1, and at most 2, credits of CSE 590 (Colloquium). Students must complete and defend an M.S. thesis (6 credits of CSE 600). The total degree requirement is 30 credits.

Master of Engineering students must take 16 credits of 500-level courses with at least 15 of the credits being associated with courses that have CSE designations and numbered 500-589 (excluding a minimum of 9 credits of breadth courses referenced above and at least 3 credits of a depth course from the department list). Students must also take 12 additional credits of 400-level courses and above, excluding independent studies courses and ENGR 588 (See Handbook). This must include at least 1, and at most 2, credits of CSE 590 (colloquium). Students are required to complete and defend a 1-credit technical paper (CSE 594), take CMSC 465, either CMSC 443 and CMSC 431W or CMPE 431 and CMPE 432I, and one 500-level CSE course during the first semester (fall), then 12 credits of 500-level courses during the second (spring) semester, then CSE 620 and CSE 694 online during the summer. The total degree requirement is 30 credits.

Doctoral Degree Requirements

The doctoral degree requirements include the general requirements of the Graduate School as listed under Doctoral Degree Requirements. Furthermore, students applying for and gaining admittance to the Ph.D. program will not be permitted to switch to the master's program at a later date, except under extenuating circumstances. To qualify for a Ph.D. degree, each student must take 27 credits of courses with numbers CSE 500-589 or CSE 598, and 21 additional credits of 400-level and above courses. The 21 additional credits must include at least 3 credits of CSE 590 (colloquium), with a maximum of 3 credits of CSE 590 being counted toward the total of 48 minimum credits. A maximum of 3 credits of X96 may also be counted. A student must pass the Ph.D. candidacy examination by the third regular semester after entering the program (see Handbook). Students must pass the Ph.D. comprehensive examination after completion of most of the course work, and the English competency and communication requirements. A thesis must be completed under the direction of a Ph.D. committee and the results must be successfully defended in the thesis defense examination.

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.

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.

COMPUTER SCIENCE AND ENGINEERING (CSE) course list

DATE LAST REVIEWED BY GRADUATE SCHOOL: 5/3/04 (TBD).

Faculty linked: 6/5/14 TBD
Attachment 2: Graduate Bulletin, Revised

Computer Science and Engineering (CSE)

RAJ ACHARYA, Head of the Department
111 Information Sciences and Technology Building
814-865-9505

Degrees Conferred:

Ph.D., M.S., M.Eng.

The Graduate Faculty

The Program

The department offers courses and is prepared to direct research in a variety of subfields of computer science and engineering, including VLSI, computer architecture, parallel/distributed processors and processing, multiprocessors, interconnection networks, pattern recognition and image processing, performance evaluation, reliability, fault tolerance, theory of computation, computer systems, numerical analysis and optimization, programming methodology, and analysis of algorithms. Research and instruction are supported by extensive computing facilities within the University's Information Technology Services and by the computer laboratories operated by the department.

For information about areas of specialization, laboratory and research facilities, fellowships assistantships, and other sources of financial assistance, please refer to our Web site: www.cse.psu.edu.

Admission Requirements

All applicants must provide a one-page statement of purpose and scores from the Graduate Record Examinations (GRE) Aptitude Test (verbal, quantitative, and analytical). A subject test in the GRE is not required, but the subject test in Computer Science is recommended. Those students seeking an assistantship in Computer Science and Engineering ARE REQUIRED to submit a Test of Spoken English (TSE) or the TOEFL IBT. A score of 26 on the speaking section of the TOEFL IBT is equivalent to passing the TSE. A lower score would require remedial English as a Second Language courses. For score reporting for TOEFL and TSE, our institution code is 2600 and our department code is 78.

English Proficiency—The language of instruction at Penn State is English. 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), with the exceptions noted below. The minimum acceptable score for the TOEFL is 550 for the paper-based test, 213 for the computer-based test, or a total score of 80 with a 20 on the speaking section for the Internet-based test. The minimum composite score for the IELTS is 6.5. Specific graduate programs may have more stringent requirements.

International students are exempt from the TOEFL/IELTS requirement who have received a baccalaureate or a master's degree from a college/university/institution in any of the following: Australia, Belize, British Caribbean and British West Indies, Canada (except Quebec), England, Guyana, Republic of Ireland, Liberia, New Zealand, Northern Ireland, Scotland, the United States, and Wales.

Specific graduate programs may require all international applicants to submit a TOEFL or IELTS score, regardless of their academic background and country of origin.

Information about the TOEFL can be obtained by writing to the Educational Testing Service, Box 6155, Princeton, NJ 08541-6155 or visiting its Web site at www.toefl.org. Local administration at University Park campus of the TOEFL is handled by the IECP. Information about the IELTS can be obtained by contacting IELTS International, 100 East Corson Street, Suite 200, Pasadena, CA 91103 or visiting its Web site at www.ielts.org.

Master's Degree Requirements

Candidates for the master's degree must satisfactorily complete the requirements of the Graduate School. In addition, all students are expected to have completed appropriate courses in computer architecture and machine organization, data structures and analysis of algorithms, programming languages, operating systems, and logical design/switching theory or theory of automata. Students who do not meet background requirements will be required to take the appropriate 400-level courses to prepare them for the 500-level courses. At most, 3 credits of background course work can be used to satisfy the degree requirements, except as specified for the M.Eng. degree. Students admitted to the M.S. program will not be permitted to switch to the M. Eng. program at a later time, except under extenuating circumstances.

Master of Science students must take 15 credits of courses numbered CSE 500 through 599, including a minimum of 9 credits of breadth courses taken from the department's Graduate Handbook in Computer Science and Engineering. An additional 9 credits of 400-level courses and above (excluding independent studies courses and ENGR 588) are required (see Handbook). This must include at least 1, and at most 2, credits of CSE 590 (Colloquium). Students must complete and defend an M.S. thesis (6 credits of CSE 600). The total degree requirement is 30 credits.
Master of Engineering students must take CMPSC 465, either (CMPSC 443 and CMPSC 431W) or (CMPEN 431 and CMPEN 472), and one 500 level CSE course during the first semester (fall), then 12 credits of 500 level courses during the second (spring) semester, then CSE 820 and CSE594 online during the summer. The total degree requirement is 30 credits.

Doctoral Degree Requirements

The doctoral degree requirements include the general requirements of the Graduate School as listed under Doctoral Degree Requirements. Furthermore, students applying for and gaining admittance to the Ph.D. program will not be permitted to switch to the master’s program at a later date, except under extenuating circumstances. To qualify for a Ph.D. degree, each student must take 21 credits of courses with numbers CSE 500-599 or CSE 598, and 21 additional credits of 600-level and above courses. The 21 additional credits must include at least 3 credits of CSE 590 (colloquium), with a maximum of 3 credits of CSE 590 being counted toward the total of 48 minimum credits. A maximum of 3 credits of X96 may also be counted. A student must pass the Ph.D. candidacy examination by the third regular semester after entering the program (see Handbook). Students must pass the Ph.D. comprehensive examination after completion of most of the course work, and the English competency and communication requirements. A thesis must be completed under the direction of a Ph.D. committee and the results must be successfully defended in the thesis defense examination.

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.

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.

COMPUTER SCIENCE AND ENGINEERING (CSE) course list

DATE LAST REVIEWED BY GRADUATE SCHOOL: TBD

Faculty Listed: TBD
Attachment 3: Original letters of Consultation

Emails below were sent out on October 9, 2014, to Linda Null, Associate Program Chair of the Computer Science & Mathematics Department at Harrisburg and Colin J. Neill, Associate Professor and Director of Engineering Programs (Software Engineering) at Great Valley.

Letter sent to Linda Null:

Hi Linda,

CSE is revamping its M.Engr. program. I don’t believe that it is a substantial change to our current program – we will require 3 specific 400 level courses rather than allowing them to be completely elective, and we will require a new 800 level course on hardware/software project management (you should have received an email requesting your consultation on the 800 level course). Our intent is to refocus the program so that students will graduate in 1 year (Fa, Sp, Su), rather than the current 2 years. We plan to enroll 50 students a year in the steady state. We will still direct to your program those fall admission master’s applications that we do not admit into our program as we have been doing. Given we are averaging more than 1000 admission applications in the fall semester we should still be able to direct to you a good number of quality applications (about 2/3 of the applications are masters applications).

I have attached the program proposal. I would appreciate it if you would look it over and provide any comments, questions, and/or concerns as a part of the formal consultation process. I would appreciate a response by October 23, 2014.

Thanks,  
Lee

Response from Linda Null received on 10/17/24

Lee,  

We have looked over your program proposal and support it fully. There were questions raised about a 12 credit load the second semester, but with the required core courses you have listed, students should have the background to handle four 500-level electives.

Regards,  
Linda

Letter sent to Colin Neill:

Hi Colin,

CSE is revamping its existing M.Engr. program. I don’t believe that it is a substantial change to our current program - we will require 3 specific 400 level CmpSc and/or CmpEn courses rather than allowing
them to be completely elective, and we will require a new 800 level course on hardware/software project management. Our intent is to refocus the program so that students will graduate in 1 year (Fa, Sp, Su), rather than the current 2 years. I do not believe that any of these changes will substantially impact the SWENG master's degree program but to be sure and as a part of the formal consultation process I would appreciate it if you would look over the attached program proposal which outlines the changes and provide me any comments, questions, and/or concerns which you might have. I would appreciate a response by October 23, 2014.

Thanks,
Lee

No response was received by October 23, 2014.
GRADUATE COUNCIL COMMITTEE ON PROGRAMS AND COURSES

SUBCOMMITTEE ON NEW AND REVISED PROGRAMS AND COURSES PROGRAM, OPTION, OR MINOR PROPOSAL FORM

Submit 1 copy of the proposal form and 25 copies of the supporting documentation as outlined below to the Curriculum Coordinator, University Faculty Senate, 101 Kem Graduate Building. The proposals will be transmitted to the Dean of the Graduate School for consideration by the Graduate School’s Subcommittee on New and Revised Programs and Courses, and the Committee on Programs and Courses. For a detailed explanation of the form, see the Guide to Curricular Procedures.

College Department or Instructional Area  
Geography

NEW PROGRAM, OPTION OR MINOR

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

Indicate effective date 

OLD PROGRAM, OPTION, OR MINOR: Change  \(\times\) Drop ___

Old designation of program
Old designation of option
Old designation of minor

Adopt the dual-title graduate degree program in African Studies

New designation of program (if changed)
New designation of option (if changed)
New designation of minor (if changed)

Indicate effective date 

SUBMITTED BY 
Brent Yama\(\.{\)} Date 28 March 12
In Charge of Graduate Program

NOTED BY 
Brent Yama\(\.{\)} Date 28 March 12
College Representative to Graduate Council Subcommittee on New and Revised Programs and Courses

APPROVED BY 
John R. Hellman Date 11 April 2012
Dean of College

RECOMMENDED BY 
Richard Young Date 5/7/2012
Subcommittee on New and Revised Programs and Courses

NOTE: ON BEHALF OF C. Andrew Cole and Jeanne Fanning

Dean of the Graduate School

NOTED BY 
B. Vascilates-Younke Date 12/23/14
Dean of the Graduate School
A Proposal to the Graduate Council to Adopt the Dual-Title Graduate Degree Program in African Studies

Submitted by the Graduate Program in Geography

Contact: Alexander Klippel
Associate Head
Department of Geography
302 Walker Building
Phone: 865 2324
Email: klippel@psu.edu
Table of Contents

PROGRAM PROPOSAL ............................................................................................................................. 1

OBJECTIVES ............................................................................................................................................... 1

JUSTIFICATION STATEMENT .................................................................................................................. 1
Constituency .................................................................................................................................... 2
Outcomes ......................................................................................................................................... 3

PROGRAM CHANGE ................................................................................................................................. 5
Dual-Title Graduate Degree in Geography and African Studies ................................................................. 5
Admissions Requirements ....................................................................................................................... 5
Academic Advisors and Course Selection ................................................................................................. 5
Requirements for the Geography-African Studies Ph.D. ............................................................................ 6
Language Requirement ............................................................................................................................ 7
Candidacy Exam .................................................................................................................................. 7
Doctoral Committee Composition ............................................................................................................ 8
Comprehensive Exam .............................................................................................................................. 8
Dissertation and Dissertation Defense .................................................................................................... 8
African Studies Courses Available to Fulfill Requirements ..................................................................... 8
Sample Curricula .................................................................................................................................... 11
Costs ............................................................................................................................................... 11
Funding Opportunities for Dual-Title Degree Students ........................................................................... 11

ACCREDITATION .................................................................................................................................... 11

DEPARTMENTS AFFECTED .................................................................................................................. 12

CONSULTATION ...................................................................................................................................... 12

PROPOSED REVISIONS TO BULLETIN COPY FOR GEOGRAPHY ....................................................... 13

ADDITIONAL LANGUAGE TO BE INSERTED INTO THE BULLETIN ...................................................... 17
Dual-Title Graduate Degree in Geography and African Studies ................................................................. 17
Admissions Requirements ....................................................................................................................... 17
Degree Requirements ............................................................................................................................... 18
Requirements for the Geography-African Studies Ph.D. ............................................................................ 18
Language Requirements ............................................................................................................................ 19

APPENDIX: LETTERS OF SUPPORT FOR ADOPTION OF THE DUAL-TITLE PROGRAM .......... 20
African Studies Program ............................................................................................................................ 21
Department of Political Science ............................................................................................................... 22
Department of Comparative Literature ................................................................................................... 24
Department of Women’s Studies ............................................................................................................... 25
HDNRE .............................................................................................................................................. 26
PROGRAM PROPOSAL

The graduate program in Geography in the College of Earth and Mineral Sciences proposes to adopt the Dual-Title Ph.D. Degree program in African Studies.

The program will not duplicate any other degree program at University Park or at Penn State’s commonwealth campuses. The program will also not affect directly any other department or program, except for the two proposing units, the graduate program in Geography and the African Studies dual-title degree program.

This proposal contains the following information, which is consistent with the review and approval process of the Graduate Council:

- A listing of courses at University Park that is appropriate for African Studies
- Requirements for the candidacy and comprehensive exams
- Composition of the comprehensive examination committee
- Composition of the doctoral committee
- The administrative process by which students will be admitted to the Dual-Title Doctoral Program in Geography and African Studies

JUSTIFICATION STATEMENT

The African continent is an increasingly important actor in the global geopolitics of the twenty-first century. Many countries on the continent are major energy centers and leading producers of mineral resources, which are critical to the stability of the current international economic system. In addition to its historical role as a source of raw materials, Africa has become a growing market for manufactured goods from northern countries and an attractive destination for foreign direct investment from all over the world. These fundamental structural attributes have made twenty-first century Africa an important arena over which the European Union, the US, China, and other developed and newly developing countries and regions vie for access to economic opportunities and political influence. Despite such potentially promising developments for the region, many urban and rural communities in Africa continue to face serious challenges to their livelihoods. These challenges include land and labor expropriation. They also include exposure to new forms of diseases and uneven gender and age access to resources. Poor infrastructure hinders the ability of many communities to combat adverse internal and external political, social, and economic forces, consequently entrapping them in a cycle of poverty.

Graduate students from Penn State’s multiplicity of academic and sociocultural backgrounds who wish to study Africa’s role in the present global system, together with the livelihood challenges faced by many of its peoples, must be provided with an intellectual home to do so. The proposed adoption of the dual-title doctoral degree program will provide the opportunity for Geography doctoral students to obtain an African Studies specialization to complement their Ph.D. studies. The proposed dual-title degree program will provide such students with a framework within which they can integrate in a systematic way Africa-related courses in Geography and other disciplines to engage in comparative, multidisciplinary African Studies.
The multidisciplinary approach of the proposed program will utilize the expertise of existing Africanists at Penn State to design courses, which, as necessary and applicable, will adopt the lens of the humanities, social sciences, education, biobehavioral sciences, and environmental sciences. For example, analysis of land-use change in a particular region in Africa will not be merely a geographical enquiry. Rather, it will integrate geographic principles of climate change, resource competition, and political ecology with principles from history, ethnicities, language, and/or linguistics. In the same vein, relevant comparative analyses will be invoked to interrogate pertinent issues of African development and livelihood change, including, for example, those dealing with gender, refugees, child labor, terrorism, and food security.

The integrative orientation of the proposed program builds on its multidisciplinarity and is further embedded in two components: a pedagogy that assists doctoral students to synthesize their thematic and/or regional interests in African Studies; and an overall structure that allows doctoral students to combine their interests in Geography with African Studies into a single intellectual endeavor. No other formal avenue currently exists at Penn State for doctoral students to pursue this intellectual convergence between their specialization in Geography and African Studies.

Other major universities in the CIC (for example, Ohio State, Michigan State, and Michigan) and around the country (Yale, Cornell, UCLA, Florida, and UPenn) have flourishing programs in African Studies. None of these programs, however, is conceived explicitly as an intellectual partnership between Geography and African Studies at the doctoral level. Owing to its uniqueness, the proposed program provides an academic niche that will contribute to Penn State’s vision of becoming a leader in multidisciplinary, international, and multicultural scholarship.

In summary, the proposed dual-title doctoral degree program in Geography and African Studies will:

- Provide a framework within which Geography doctoral students formally can pursue an integrated body of regional/thematic courses to complement their major area
- Use African Studies graduate faculty to enrich the multidisciplinary training and research of Geography doctoral students who have an interest in Africa;
- Enhance the standing of Penn State among CIC universities in African Studies; and
- Provide potential job opportunities for Geography doctoral graduates by making it possible for them to acquire a qualification that is unique and can attract a wide range of employers, including, academia, the US government, bilateral and multilateral international organizations, and international non-governmental organizations.

**Constituency**

Geography currently offers two 400-level courses that are Africa-related: GEOG 436 (Ecology, Economy and Society) with enrollments of 15 (FA09) and 12 (FA10); GEOG 444 (African Resources and Development) with enrollments of 26 (FA09) and 36 (FA11). A graduate seminar, GEOG 507 (Environment and Poverty in Africa) was also offered in SP 08, with an
enrollment of 6 students. In addition, seven current geography doctoral students are pursuing active research interests in Africa and are preparing dissertations pertaining to African development, livelihood change, and environment. Incoming geography graduate students often express interest in African research. Several Geography graduate faculty members, including Brian King, Petra Tschakert, Robert Crane, Erica Smithwick, and Ikubolajeh Logan, have active and extensive research and teaching interests in African Studies and direct or serve on dissertation committees on Africa-related issues. Further, the African Studies Program faculty routinely receives enquiries, countrywide and internationally, from social science graduate students, including geographers, about the possibility of pursuing African Studies at Penn State. The bases already exist, therefore, for strong intellectual collaboration between Geography and the African Studies Program.

Outcomes

By integrating African Studies into every aspect of their research and dissertation, the Dual-Title Doctoral Degree Program in Geography and African Studies is expected to have several beneficial outcomes for graduate education at Penn State in general, and for Geography doctoral students in particular. The program will have the following specific outcomes:

- **Provide an institutional framework within which Geography doctoral students can streamline their interest in African Studies by taking a suite of courses that integrates a regional and/or thematic concentration**
- **Enrich the curriculum and training of Geography doctoral students by offering a systematic and integrated cluster of courses on African political, socioeconomic, and environmental change**
- **Provide research opportunities and linkages in Africa for Geography doctoral students by using the research projects and institutional networks of African Studies graduate faculty**
- **Enhance the appeal of the Geography doctoral degree to prospective national and international students**
- **Enhance the international, multicultural vision of two major colleges within the University — Earth and Mineral Sciences and the Liberal Arts**
- **Expand research linkages between Geography doctoral students and African universities and research institutions with which the African Studies graduate faculty has established research networks (examples from the main African Studies proposal include the University of South Africa, the University of Limpopo in South Africa, the University of Zimbabwe, the Kenya Institute for Public Policy Research Analysis, South Africa’s Human Science Research Council, and the Organization for Social Science Research in Eastern and Southern Africa)**
- **Expand the employment potential for Geography doctoral graduates by providing them with a degree that will give them regional expertise and make them competitive for academic positions and for positions in international governmental and non-governmental agencies and organizations. Table 1, copied from the main African Studies proposal, lists United Nations agencies that are likely to be highly interested in hiring an applicant with a Ph.D. in Geography and African Studies.**
Table 1: Cross-Section of United Nations Organizations with Potential to Employ Program Graduates

African Development Bank
Department of Peacekeeping Operations
Executive Office of the Secretary-General
International Criminal Tribunal for Rwanda
International Fund for Agricultural Development
International Labor Organization
International Monetary Fund
International Organization for Migration Office of the High Representative for the Least Developed Countries (LDCs), Land Locked Developing Countries (LLDCs) and Small Island Developing States (SIDS), Office of the High Commissioner for Human rights
Joint United Nations Programme on HIV/AIDS
Organization for Economic Co-operation and Development
The Global Fund to fight AIDS, TB and Malaria
The World Bank Group
UN Department of Political Affairs
UN Entity for Gender Equality and the Empowerment of Women
UNESCO
United Nations Human Settlements Programme
United Nations Environment Programme
United Nations Framework Convention on Climate Change
United Nations Office to the African Union
United Nations Operation in Côte d'Ivoire
United Nations Population Fund
United Nations Office at Geneva
United Nations Children's Fund
United Nations Office at Nairobi
United Nations Development Programme
United Nations Economic Commission for Africa
World Food Program
World Health Organization


In June 2011, the organizations listed in Table 1, together with other organizations within the United Nations system, advertised 289 positions distributed across Africa. Although these jobs cover a wide range of skills, training, and experience, many require the training that a graduate of the proposed dual-title program will have. The United Nations job possibilities outlined in the table, together with positions in other bilateral and multilateral organizations, the US Foreign and Diplomatic Services, and academia, suggest that significant job opportunities exist for graduates of the proposed dual-title degree program.
PROGRAM CHANGE

Dual-Title Graduate Degree in African Studies

Geography doctoral students – who are already in the program and who have research and scholarly interests in comparative, sub-regional, national and thematic analyses, environmental change, livelihood systems, socio-economic and political change, and other aspects of African development – may apply to the Dual-Title Doctoral Degree Program in African Studies. The goal of the dual-title program is to enable graduate students from Geography to complement their knowledge and skills in a major area of geographic specialization with in-depth knowledge of prevailing theories and problem-solving approaches to thematic, regional, or national issues pertaining to African Studies.

The dual-title degree program will provide interested Geography doctoral students with a multidisciplinary approach that will enhance their analytical capabilities for addressing key issues in African development and broad aspects of livelihood change. It thereby will add value to their Geography degree and increase their competitiveness in the job market. The well-rounded, regional specialist who graduates from the program is likely to be employed in an international setting. The program has the potential, therefore, to enhance the reputation of the Geography Department, the College of Earth and Mineral Sciences, the College of the Liberal Arts, and Penn State.

Admission Requirements

Students must apply and be admitted to the graduate program in Geography and The Graduate School before they can apply for admission to the dual-title degree program. Applicants interested in the dual-title degree program may make their interest in the program known clearly on their applications to Geography and include remarks in their statement of purpose that address the ways in which their research and professional goals in Geography reflect an interest in African Studies-related research.

To be enrolled in the Dual-Title Doctoral Degree Program in African Studies, a student must submit a letter of application and transcript, which will be reviewed by the African Studies Admissions Committee. Students must apply for enrollment into the dual-title degree program in African Studies prior to taking their candidacy examination.

General Graduate School admission requirements are stated in the GENERAL INFORMATION section of the Graduate Bulletin.

Academic Advisors and Course Selection

To qualify for the dual-title degree, students must satisfy the requirements of the Geography graduate program. In addition, they must satisfy the requirements described below, as established by the African Studies Program. Within this framework, final course selection is determined by the student in consultation with the Geography and African Studies academic advisors.
Upon acceptance into the dual-title degree program by the African Studies admissions committee, the student will be assigned an African Studies academic advisor in consultation with the African Studies director and the African Studies admissions committee.

As a student develops specific scholarly interests, s/he may request a different African Studies advisor from the one assigned by the African Studies admissions committee. The student and the Geography and African Studies academic advisors will establish a program of study that is appropriate for the student’s professional objectives and that is in accordance with the policies of the Graduate Council, the Geography graduate program, and the African Studies dual-title graduate degree program.

**Requirements for the Geography-African Studies Ph.D.**

The Dual-Title Doctoral Degree in Geography and African Studies is awarded only to students who are admitted to the Geography doctoral program and admitted to the dual-title degree program in African Studies. The minimum course requirements for the Dual-Title Ph.D. degree in Geography and African Studies are as follows:

- Completion of all course work and other requirements for the Geography Ph.D.
- 18 credits of Africa-related coursework at the 400-, 500-, or 800-level, of which the following are required: AFR 501 (3) and a minimum of 6 credits from AAS 530 (3), AFR 532 (3), AFR 534 (3), AFR 536 (3), AFR 537 (3), and SOC/AFR 527 (3)
- As many as 6 of the 18 credits may come from 400-, 500-, or 800-level Geography courses, as approved by the student’s Geography and African Studies Program advisors
- The remaining credits can be taken in AFR or in any department other than Geography; of these, no more than 6 credits may be taken at the 400-level and no more than 3 combined credits may come from AFR and GEOG 596 and 599
- Communication and foreign language requirements will be determined by the student and the Geography and African Studies advisors in accordance with the existing Geography language requirements

The choice of electives in African Studies is to be proposed by the student and is subject to approval by the Geography and African Studies academic advisors. The suite of selected courses should have an integrated, intellectual thrust that probes a thematic, national, or regional issue and that complements the student’s specialty in Geography.

**Table 2: Comparison of Current Program Requirements for Geography and Proposed Requirements for the Dual-Title Degree in Geography and African Studies**

<table>
<thead>
<tr>
<th>Current Geography Program Requirement</th>
<th>Proposed Requirements for the Dual-Title Doctoral Program in Geography and African Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of coursework and other requirements for the Geography Ph.D., as outlined in the graduate student handbook</td>
<td>Completion of coursework and other requirements for the Geography Ph.D., plus course work and other requirements for the African Studies Dual-Title Ph.D.</td>
</tr>
<tr>
<td>No fixed total number of required credits prescribed according to the student’s prior experience.</td>
<td>No fixed total number of required credits prescribed according to the student’s prior experience.</td>
</tr>
</tbody>
</table>
The following courses must be completed during the first year of residence:

- GEOG 500 (3)
- GEOG 502 (3)
- GEOG 590 (2)

18 credits at the 400 or 500 levels of which the following are required:

- AFR 501 (3 credits)
- A minimum of 6 credits from AAAS 530, AFR 532, AFR 534, AFR 536, AFR 537, SOC/AFR 527
- As many as 6 of the 18 credits may and come from 400- or 500-level courses in Geography.
- Remaining credits will be selected from non-Geography electives listed in the African Studies Bulletin and approved by the student’s Geography and African Studies Program advisors. No more than 6 credits of these may be at the 400-level.
- No more than 3 of the 18 total credits may be from AFR 596, AFR 599, GEOG 596, GEOG 599, combined.

The Graduate School’s communication and foreign language requirement for the Ph. D. degree shall be satisfied in a manner approved by the candidate’s doctoral committee.

The Graduate Council’s communication and foreign language requirement for the Ph. D. degree shall be satisfied in a manner approved by the candidate’s doctoral committee.

Faculty representation from African Studies on the following committees, according to Graduate Council’s policies on composition of doctoral committees:

- Comprehensive exam
- Dissertation defense

The topic of the dissertation must address Geography and some aspect of African Studies.

**Language Requirement**

The language requirement for a student in the dual-title doctoral degree program will be determined by the student and the Geography and African Studies Program advisors in accordance with the existing Geography language requirements.

**Candidacy Exam**

The Candidacy Exam in Geography is an oral exam designed to help students to “think analytically and critically in their field of expertise and to understand and apply ideas from other fields of geography to their research domain” (Geography Graduate Student Handbook 2011-2012, p. 30). The format of the candidacy exam for the dual-title degree student will be unchanged from the existing Geography candidacy exam and will be guided directly by the requirements outlined in the Geography Graduate Student Handbook. The only difference from the Geography candidacy exam will be an explicit African studies component.
Doctoral Committee Composition

The doctoral committee of a Ph.D. dual-title doctoral degree student 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 one member of the African Studies graduate faculty. If the chair of the committee representing Geography is not also a member of the graduate faculty in African Studies, then the member of the committee representing African Studies must be appointed as Co-Chair.

Comprehensive Exam

After completing all course work, doctoral candidates for the dual-title doctoral degree in Geography and African Studies must pass a comprehensive examination that includes written and oral components. Written components will be administered on a candidate’s major Geography subfields and on African Studies. The African Studies representative on the student’s doctoral committee will develop questions for and participate in the evaluation of the oral component of the comprehensive examination. The African Studies component of the exam will be based on the student’s thematic, national, or regional area of interest and specialization in African Studies.

Dissertation and Dissertation Defense

Ph.D. students enrolled in the dual-title degree program are required to write a dissertation on a topic that reflects their education and research interest in Geography and African Studies. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the degree.

African Studies Courses Available to Fulfill Requirements

AFR 501- Key Issues in African Studies (3 credits).
This seminar will provide students with an overview of a wide range of issues, theories and methods in African Studies. The course will be divided into three key areas: African history and culture; African political economies and globalization; and human environment relations in Africa.

AAAS 530- Globalization in Africa (3)
This course examines how globalization has impacted African societies and their socioeconomic development. To be able to systematically examine its impacts, students first need a clear conceptualization of globalization and its essential characteristics. The course, thus, starts with conceptualization of globalization and a theoretical discussion about how and under what conditions it emerges. The course then analyzes globalization’s impacts on Africa’s socioeconomic development and concludes with a discussion that explores how African countries may deal with the most important challenges and constraints globalization imposes on
AFR/GEOG 532- Environment and Poverty in Africa (3)
This seminar is used to critique overlaps among resource control, conservation, and poverty in sub-Saharan Africa. The readings, discussions, annotations and critiques will be designed to draw out what is believed to be an overlapping conceptual framework between sustainability and poverty. The seminar will also use case study examples to trace the relationships between sustainability discourse (in terms of conservation) and poverty creation and perpetuation among livelihood systems in sub-Saharan Africa, example: nomadic pastoralists and land and water resources; land reform and rural livelihood systems; community-based resource programs, mining, the environment and rural communities; and national parks, transfrontier parks and rural livelihood systems.

AFR/PL SC 534- Political Economy of Petroleum, Energy and Extractive Industries in Africa (3)
This course examines the extractive industry-driven changes in Africa’s political economy as well as in the continent’s foreign relations. Students are encouraged to examine the institutional mechanisms under which the expansion of the industry is taking place in Africa. The course, thus, involves an extensive discussion of the institutional characteristics of Africa, including issues of land tenure and property rights laws. It examines how the institutional mechanisms are changing in order to facilitate the industry’s expansion and the repercussions of these institutional changes on society. The course also analyzes the industry’s impacts on Africa’s socioeconomic development and global relations.

AFR 536- Kinship and Social Practices in Africa (3)
The course analyses different kinship theories and how they may enable us to enhance our understanding of the different dimensions of African social practices in historical and contemporary Africa. It examines theories of kinship and social formations in order to interpret the relevance of traditional formations in historical and contemporary African development. It also examines the implications of social formations for political change (example, democratization), social (example, corruption and institutional failures) and cultural (ethnicity and religion) for shaping change in contemporary Africa.

AFR/WS 537-Gender, Sexuality and Islam in Africa (3)
This course focuses on the intersection of Feminist Studies, African Studies and Religious Studies. It offers students an in-depth level of reading, analysis, and discussion about discourses of sexuality and gender in studies of Islam in Africa. It discusses key African and feminist theoretical concepts in the study of gender and Islam and also engages discussions of religion, gender and sexuality. Building on these foundations, the course examines the historical, literary and visual representation of gender, sexuality and Islam in South Africa as case study. The latter section includes discussions of recent theoretical debates about sexual diversity in Islam as well as the impact of activism, political representation and artistic, literary and autobiographical representations by gay and lesbian Muslims in South Africa.

SOC/AFR 527- Migration, Urbanization and Policy in the Developing World (3)
The course reviews the conceptual, substantive, and policy issues associated with migration and urbanization in non-western contexts. It begins by focusing attention on the role of migration systems in the organization of migration flows. Emerging issues, controversies, and the impacts of social changes in rural and urban areas in migration will also be reviewed. The course also gives attention to the determinants of internal-migration and urbanization in the developing world. Finally, using discourses on population policy as a backdrop, the implications of migration and urbanization trends for policy development will be evaluated.

The core electives listed above provides students with the opportunity to pursue in greater detail one of the three key themes covered in AFR 501: history and culture (536 or 537); political economy (527, 530, 534); and human-environment interaction (527, 532, 534).

**Africa-Related Courses Currently Available in the African Studies Program and in other Units at Penn State (all AAAS course prefixes are to be changed to AFR)**

- AAAS 496 Individual Studies
- AAAS 499 Foreign Studies
- AAAS 596 Individual Studies
- AAAS 599 Foreign Studies
- AAAS/LING 545 Anthropological Approaches to Language, Culture and Health (3)
- AAAS/LING 507 Language Policy and Development Planning in Africa (3)
- AAAS/PL SC 443 (IL) Ethnic Conflict in Africa (3)
- AAAS/PL SC 454 (IL) Government and Politics of Africa (3)
- AAAS/PL SC 434 (IL) War and Development in Africa (3)
- AAAS/PL SC 464 (IL) Globalization, Extractive Industries, and Conflict in Africa (3)
- AAAS/PL SC/IB 440 (US;IL) Globalization and Its Implications (3)
- AG EC/AEREC 550 International Economic Development and Agriculture (3)
- ANTH 447 (IL) Peoples and Cultures of Africa (3)
- ANTH 556 Social Organization of Traditional Societies (3)
- ANTH 575 Population, Food, and Traditional Farming (3)
- CMLIT 422 (IL) African Drama (3)
- CMLIT 423 (IL) African Novel (3)
- ECON 413W Economic Growth and the Challenge of World Poverty (3)
- ECON 475W Migration and Development (3)
- GEOG 429 (US) Global Urbanization (3)
- GEOG 436 Ecology, Economy, and Society (3)
- GEOG 444 African Resources and Development (3)
- HIST/AAAS 415 (US;IL) Race, Gender, and Politics in the United States and S. Africa (3)
- PL SC 412 International Political Economy (3)
- PL SCI 453 Political Processes in Underdeveloped Systems (3)
- PL SC 554 The Politics of Development (3)
- PL SCI 563 International Political Economy
- PL SCI 597 (If the course content is at least 50% Africa-related)
- RSOC/CED 420 (US;IL) Women in Developing Countries (3)

**Sample Curricula**
Possible integrated suite of courses for a Geography doctoral student with broad interest in Globalization and Land Use Change in Ethiopia:

- Core course (AFR 501) (3 credits)
- Any from AFR 530, 532, 534 (3-9 credits)
- No more than two courses from AFR/PLSC 440, AFR/PLSC 454, GEOG 436, GEOG 444, PLSC 453 (3-6 credits)
- Other listed electives (3 or more credits)

Possible integrated suite of courses for a Geography doctoral student with interest in HIV/AIDS in Female-Headed Households in South Africa:

- Core course (AFR 501) (3 credits)
- Any from AFR 536, 537 (3-6 credits)
- No more than two courses from ANT 447, GEOG 444, RSOC/CED 420 (3-6 credits)
- Other listed electives (3 or more credits)

Costs

Students enrolled in the dual-title degree program are not expected to incur additional costs by participating in the program. The Geography and African Studies advisors will assist the student to select his/her courses in order to ensure that all degree requirements are satisfied in a timely manner.

Funding Opportunities for Dual-Title Doctoral Students

Geography has a commitment to fund all graduate students in good standing and expects to be the principal source of funding for Geography students in the dual-title degree program. Nonetheless, dual-title degree candidates from Geography will be eligible for assistantships in The African Studies Program. African Studies currently has one full time research assistantship and expects this to be increased to a minimum of two. The African Studies Program will also use workload resources to support doctoral students to teach its introductory courses, for example, AFR 110 (Introduction to Contemporary Africa). Students who are supported by graduate TA-ships or RA-ships from the African Studies Program will work in roles and circumstances determined by the African Studies Director. Students supported by funds from Geography will perform teaching and other academic duties determined by the Graduate Officer of that program.

ACCREDITATION

No accrediting body or board and no licensing procedure is relevant.

DEPARTMENTS AFFECTED
This program would not duplicate any other graduate program at this university and would only affect the Geography Department, other partners of the African Studies dual-title doctoral degree and affiliates of African Studies.

CONSULTATION

The following programs and departments were consulted and are supportive of the Dual-Title Graduate Degree in Geography and African Studies.

- African Studies (parent program)
- Political Science (adopting graduate program)
- Comparative Literature (adopting graduate program)
- Women’s Studies (dual-title with Geography)
- Human Dimensions of Natural Resources and the Environment (dual-title with Geography)

Letters of support are located in Appendix.
PROPOSED REVISIONS TO BULLETIN COPY FOR GEOGRAPHY

Geography (GEOG)

Program Home Page (Opens New Window)

KARL S. ZIMMERER, CYNTHERIA A. BREWER, Head of the Department
302 Walker Building
814-865-5072

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

Dual-Title Ph.D. (Geography and African Studies)

The Graduate Faculty

The faculty encourages graduate students to arrange courses of study appropriate to their individual needs and aspirations. Programs in Geography may be directed toward a career in public service, teaching and research, private industry, or one of the many other vocational opportunities open to geographers.

Students typically concentrate their study on topics that fall within the special skills and interests of the faculty. Current specialties include behavioral geography; biogeography; cartography; climatology; cultural geography; feminist geography; geo-computation; geographic education; geographic information science; geography of the developing world; geographic theory; geographic visualization; historical geography; human dimensions of global change; nature and society; political geography; population geography; regional economic development and industrial location; remote sensing; and urban geography.

The M.S. program is broadly based. It is designed to provide beginning graduate students with basic training in systematic fields, geographical theory, and research techniques. Study at the Ph.D. level is also broad in the first year, then becomes more specialized.

Admission Requirements

Scores from the Graduate Record Examinations (GRE) are required for admission, as well as a personal statement. Requirements listed here are in addition to general Graduate School requirements stated in the GENERAL INFORMATION section of the Graduate Bulletin.

Students with a 3.00 junior/senior grade-point average (on a 4.00 scale) and with appropriate course work in geography or a related discipline will be considered for admission to the M.S.
program or to the five-year PhD program. Applicants with master's degrees from high-quality graduate programs in geography will be considered for admission to the four-year doctoral program. The best-qualified applicants will be admitted up to the number of places that are available for new students. All students must have or must acquire a broad competence in physical geography, human geography, environment and society, GIScience, representation methods; and analysis methods (qualitative or quantitative).

Baccalaureate students must earn a master's degree before they will be considered for admission to the doctoral program.

Master's Degree Requirements

The M.S. degree may be earned by completing a thesis or two papers. The thesis option requires completion of at least 30 graduate credits. If the two-paper option is elected, the candidate must earn 35 credits of graduate-level work. The master's papers are usually expanded versions of course or semester papers that are of sufficiently high quality that they can be submitted to scholarly journals. At least one of the papers offered to fulfill the M.S. papers requirement must have been written in connection with a departmental course or seminar.

All M.S. students are required to enroll in GEOG 500 Introduction to Geographic Research (3 credits), GEOG 502 Research Scholarship in Geography (3 credits), and at least 3 credits of GEOG 501A, B, C, or D Research Perspectives (1 credit each) during their first year of residence. All M.S. students are required to complete at least one seminar at the 500 level. Supporting courses are chosen in consultation with an entrance committee (in year one) or and the adviser (in subsequent years).

Doctoral Degree Requirements

There are three paths to a Ph.D. One is a five-year Ph.D with M.S. degree, which is available to students who enter Penn State Geography’s graduate program without a master’s degree. These students are on an accelerated schedule and earn an M.S. along the way to the Ph.D. The second is a four-year Ph.D., which is available to those students who have already received a master’s degree in another program either at Penn State or at another university. The third is an M.S.-to-Ph.D. path, which is available to Penn State Geography M.S. students who decide either to continue into the Ph.D. program after they have started their master’s program, or to return for the Ph.D. after having graduated with the M.S. Students on this path are not accelerated and therefore will usually require two years to earn the master’s and four years to earn the doctorate.

There is no fixed number of credits; courses are prescribed according to the student's prior experience and academic goals. The Graduate School's communication and foreign language requirement for the Ph.D. degree shall be satisfied in a manner approved by the candidate's doctoral committee.
All doctoral students are required to enroll in GEOG 500 Introduction to Geographic Research (3 credits) and GEOG 502 Research Scholarship in Geography (3 credits) during their first year of residence.

**Other Relevant Information**

Penn State's graduate program in Geography works with incoming students to design programs tailored to their specific interests and needs. Thus there are few formal requirements and a maximum of opportunities for students to pursue their own interests under the guidance of the faculty. Each student's work is supervised by his or her academic adviser and by a committee consisting of two additional members of the graduate faculty for M.S. students and three or four additional members for doctoral students.

**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*.

**Courses**

Graduate courses carry numbers from 500 to 6599 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.

[GEOGRAHPHY (GEOG) course list](#)

**ADDITIONAL LANGUAGE TO BE INSERTED INTO THE BULLETIN**

**Dual-Title Graduate Degree in African Studies**

Geography doctoral students – who are already in the program and who have research and scholarly interests in comparative, sub-regional, national and thematic analyses, environmental change, livelihood systems, socio-economic and political change, and other aspects of African development – may apply to the Dual-Title Doctoral Degree Program in African Studies. The goal of the dual-title program is to enable graduate students from Geography to complement their knowledge and skills in a major area of geographic specialization with in-depth knowledge of prevailing theories and problem-solving approaches to thematic, regional, or national issues pertaining to African Studies.

The dual-title degree program will provide interested Geography doctoral students with a multidisciplinary approach that will enhance their analytical capabilities for addressing key issues in African development and broad aspects of livelihood change. It thereby will add value
to their Geography degree and increase their competitiveness in the job market. The well-rounded, regional specialist who graduates from the program is likely to be employed in an international setting. The program has the potential, therefore, to enhance the reputation of the Geography Department, the College of Earth and Mineral Sciences, the College of the Liberal Arts, and Penn State.

**Admission Requirements**

Students must apply and be admitted to the graduate program in Geography and The Graduate School before they can apply for admission to the dual-title degree program. Applicants interested in the dual-title degree program may make their interest in the program known clearly on their applications to Geography and include remarks in their statement of purpose that address the ways in which their research and professional goals in Geography reflect an interest in African Studies-related research.

To be enrolled in the Dual-Title Doctoral Degree Program in African Studies, a student must submit a letter of application and transcript, which will be reviewed by the African Studies Admissions Committee. Students must apply for enrollment into the dual-title degree program in African Studies prior to taking their candidacy examination.

General Graduate School admission requirements are stated in the **GENERAL INFORMATION** section of the Graduate Bulletin.

**Academic Advisors and Course Selection**

To qualify for the dual-title degree, students must satisfy the requirements of the Geography graduate program. In addition, they must satisfy the requirements described below, as established by the African Studies Program. Within this framework, final course selection is determined by the student in consultation with the Geography and African Studies academic advisors.

Upon acceptance into the dual-title degree program by the African Studies admissions committee, the student will be assigned an African Studies academic advisor in consultation with the African Studies director and the African Studies admissions committee.

As a student develops specific scholarly interests, s/he may request a different African Studies advisor from the one assigned by the African Studies admissions committee. The student and the Geography and African Studies academic advisors will establish a program of study that is appropriate for the student’s professional objectives and that is in accordance with the policies of the Graduate Council, the Geography graduate program, and the African Studies dual-title graduate degree program.

**Requirements for the Geography-African Studies Ph.D.**

The Dual-Title Doctoral Degree in Geography and African Studies is awarded only to students who are admitted to the Geography doctoral program and admitted to the dual-title degree
program in African Studies. The minimum course requirements for the Dual-Title Ph.D. degree in Geography and African Studies are as follows:

- Completion of all course work and other requirements for the Geography Ph.D.
- 18 credits of Africa-related coursework at the 400-, 500-, or 800-level, of which the following are required: AFR 501 (3) and a minimum of 6 credits from AAAS 530 (3), AFR 532 (3), AFR 534 (3), AFR 536 (3), AFR 537 (3), and SOC/AFR 527 (3)
- As many as 6 of the 18 credits may come from 400-, 500-, or 800-level Geography courses, as approved by the student’s Geography and African Studies Program advisors
- The remaining credits can be taken in AFR or in any department other than Geography; of these, no more than 6 credits may be taken at the 400-level and no more than 3 combined credits may come from AFR and GEOG 596 and 599
- Communication and foreign language requirements will be determined by the student and the Geography and African Studies advisors in accordance with the existing Geography language requirements

The choice of electives in African Studies is to be proposed by the student and is subject to approval by the Geography and African Studies academic advisors. The suite of selected courses should have an integrated, intellectual thrust that probes a thematic, national, or regional issue and that complements the student’s specialty in Geography.

Language Requirement

The language requirement for a student in the dual-title doctoral degree program will be determined by the student and the Geography and African Studies Program advisors in accordance with the existing Geography language requirements.

Candidacy Exam

The Candidacy Exam in Geography is an oral exam designed to help students to “...think analytically and critically in their field of expertise and to understand and apply ideas from other fields of geography to their research domain” (Geography Graduate Student Handbook 2011-2012, p. 30). The format of the candidacy exam for the dual-title degree student will be unchanged from the existing Geography candidacy exam and will be guided directly by the requirements outlined in the Geography Graduate Student Handbook. The only difference from the Geography candidacy exam will be an explicit African studies component.
**Doctoral Committee Composition**

The doctoral committee of a Ph.D. dual-title doctoral degree student 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 one member of the African Studies graduate faculty. If the chair of the committee representing Geography is not also a member of the graduate faculty in African Studies, then the member of the committee representing African Studies must be appointed as Co-Chair.

**Comprehensive Exam**

After completing all course work, doctoral candidates for the dual-title doctoral degree in Geography and African Studies must pass a comprehensive examination that includes written and oral components. Written components will be administered on a candidate’s major Geography subfields and on African Studies. The African Studies representative on the student’s doctoral committee will develop questions for and participate in the evaluation of the oral component of the comprehensive examination. The African Studies component of the exam will be based on the student’s thematic, national, or regional area of interest and specialization in African Studies.

**Dissertation and Dissertation Defense**

Ph.D. students enrolled in the dual-title degree program are required to write a dissertation on a topic that reflects their education and research interest in Geography and African Studies. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the degree.
Appendix

LETTERS OF SUPPORT FOR ADOPTION OF THE DUAL-TITLE PROGRAM

African Studies Program: home of the African Studies dual-title program

Department of Political Science: adopter of dual title in Political Science and African Studies

Department of Comparative Literature: adopter of dual title in Comparative Studies and African Studies

Department of Women’s Studies: home of the dual title in Geography and Women’s Studies

Human Dimensions of Natural Resources and the Environment (HDNRE) Dual-Title Intercollege Graduate Degree Program: home of the dual title in Geography and HDNRE
Geography-African Studies dual-title proposal

Kidane Mengisteab <kmengisteab@la.psu.edu>
To: alibar@psu.edu

Thu, Mar 1, 2012 at 10:37 AM

Dear Professor Yarnal:

The African Studies Program endorses the proposal by the Department of Geography for Dual Title Graduate Degree Program in African Studies.

Thank you very much.

Kidane Mengisteab,
Acting Director, African Studies Program.

-----Brent Yarnal <alibar@psu.edu> wrote:-----

To: Kidane Mengisteab <kmengisteab@la.psu.edu>
From: Brent Yarnal <alibar@psu.edu>
Date: 02/29/2012 01:25PM
Subject: Geography-African Studies dual-title proposal

Dear Professor Mengisteab,

The Graduate Program in Geography plans to submit the attached document to the Graduate Council proposing to adopt the Dual-Title Graduate Degree Program in African Studies. As Acting Director of the African Studies Program, I seek your support of Geography’s proposal.

Could you respond with a brief letter of support that I could incorporate in the proposal? Alternatively, if you have any concerns with the proposal, could you let us know so that we can attempt to address them.

Thanks, and best wishes,

Brent Yarnal
Professor and Associate Head
Department of Geography
302 Walker Building
The Pennsylvania State University
University Park, 16802 USA

Voice: 814-863-4894
Fax: 814-863-7843
Cell: 814-441-4277

20
Hi Brent,

I'm afraid that your original message never came through and this is the first time I was notified that you were seeking my consultation (I noticed that my e-mail was not listed in the forwarded e-mail).

I have taken a close look at the proposal though, and give it my full and unqualified support. The proposal does not duplicate any of our graduate programs and because of the existing affinity between geography and political science will, I believe, enhance our existing programs.

Best,

Lee Ann

From: Brent Yarnal [mailto:alibar@psu.edu]
Sent: Tuesday, March 20, 2012 10:45 AM
To: lab14@psu.edu
Subject: Fwd: Geography-African Studies dual-title proposal

Hi Lee Ann,

I sent you an email on Wednesday, 29 February asking for your support for or concerns about the Geography Department’s proposal to adopt the Dual-Title Graduate Degree Program in African Studies. As Graduate Officer in Political Science and as representative of a department that also has a dual-title with African Studies, we seek your department's support of our proposal.

I know you are very busy, but we cannot move forward without your response, so we would be grateful if you could attend to this matter as soon as you can. Best wishes...Brent

---

Brent Yarnal
Professor and Associate Head
Department of Geography
302 Walker Building
The Pennsylvania State University
University Park, 16802 USA

Voice: 814-863-4894
Fax: 814-863-7943
Cell: 814-441-4277
---

---------- Forwards message ----------
From: Brent Yarnal <alibar@psu.edu>
Date: Wed, Feb 29, 2012 at 1:25 PM
Subject: Geography-African Studies dual-title proposal
To:
Dear Professor Banaszak,

The Graduate Program in Geography plans to submit the attached document to the Graduate Council proposing to adopt the Dual-Title Graduate Degree Program in African Studies. As Director of Graduate Studies in Political Science and as representative of a department that has also applied to adopt the dual-title in African Studies, we seek your department's support of Geography's proposal.

Could you respond with a brief letter of support that we could incorporate in the proposal? Alternatively, if you have any concerns with the proposal, could you let me know so that we can attempt to address them.

Thanks, and best wishes,

Brent Yarmal
Professor and Associate Head
Department of Geography
302 Walker Building
The Pennsylvania State University
University Park, 16802 USA

Voice: 814-863-4894
Fax: 814-863-7043
Cell: 814-441-4277
--
Dear Brent,
We fully support this proposal. It will enhance the dual degree offerings.

-Sophia

On Wed, Feb 29, 2012 at 1:25 PM, Brent Yarnal <alibar@psu.edu> wrote:
Dear Professor McClennen,

The Graduate Program in Geography plans to submit the attached document to the Graduate Council proposing to adopt the Dual-Title Graduate Degree Program in African Studies. As Director of the Graduate Program in Comparative Literature and as representative of a department that has also applied to adopt the dual-title in African Studies, we seek your department's support of Geography's proposal.

Could you respond with a brief letter of support that we could incorporate in the proposal? Alternatively, if you have any concerns with the proposal, could you let me know so that we can attempt to address them.

Thanks, and best wishes,

Brent Yarnal
Professor and Associate Head
Department of Geography
302 Walker Building
The Pennsylvania State University
University Park, 16802 USA

Voice: 814-863-4864
Fax: 814-863-7943
Cell: 814-441-4277

Dr. Sophia A. McClennen
Professor of Comparative Literature, Spanish and Women's Studies
Affiliate Faculty, School of International Affairs
Director, The Center for Global Studies
Director, The Graduate Program in Comparative Literature
Director, Latin American Studies
The Pennsylvania State University

New Book: America According to Colbert: Satire as Public Pedagogy
March 22, 2012

To the Graduate Council,

I am pleased to write in support of the proposed Dual-Title Graduate Degree Program in Geography and African Studies.

The proposed dual-title Ph.D. in Geography and African Studies builds on the existing strengths of both departments and expands on their considerable scholarly overlap. It promises to offer students in Geography who study Africa the opportunity to complement their studies with Africa-related courses in a wide variety of disciplines in the Social Sciences and Humanities.

As Graduate Officer in Women's Studies, I have worked with a dual-title degree program that has grown for more than a decade. We have found that providing students with a strong disciplinary grounding within a framework of multidisciplinary courses enhances their funding opportunities, deepens their scholarship, and broadens their employment prospects. I fully expect that the same will be the case in this new Dual-Title degree program, and I know that faculty members in Women's Studies who work in African Studies will look forward to working with these students.

Sincerely,

Lori Ginzberg
Professor of History and Women's Studies
To: Brent Yarnal, Associate Head and Graduate Program Officer, Department of Geography

From: Brent Yarnal, Chair, Human Dimensions of Natural Resources and the Environment Dual-Title Intercollege Graduate Degree Program

Date: 27 March 2012

Subject: Support for the proposed Geography-African Studies Dual Title Graduate Degree Program

The HDNRE dual-title program supports the proposed Geography-African Studies dual-title program. HDNRE recognizes that there will be instances in which Geography students who are doing human dimensions work in Africa will need to choose between doing dual-title degrees in either HDNRE or African Studies, but these cases should be few in number and should not have a significant impact on the HDNRE program.