School of Geographical Sciences and Urban Planning
Arizona State University

# Graduate Programs Handbook

## 2018 – 2019

Geography (MA) | Urban and Environmental Planning (MUEP) | Geographic Information Systems (MAS) | Geography (PhD)
Urban Planning (PhD) | Transportation Systems (Certificate) | Geographical Information Science (Certificate)
Social Science Research Methods (Certificate)

**Revised 7/27/18**

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## Handbook Objective

The objective of this handbook is to provide School of Geographical Sciences and Urban Planning (SGSUP) prospective and enrolled graduate students information on policies and procedures that must be adhered to for successfully completing a graduate degree at Arizona State University, within SGSUP. This handbook is not all-inclusive of every university policy, nor is it a complete replica of other handbooks or manuals; however, references are made to other handbooks and links provided for students to review full details on policies outside of the department.

## Mission

The School of Geographical Sciences and Urban Planning (SGSUP) advances geospatial knowledge for a complex world, emphasizing education, research, and applied solutions to urban and environmental problems.

- We are a distinctive community of physical and social scientists whose blended expertise is producing breakthroughs in geography and urban planning.
- We are committed to the social and environmental well-being of communities, places, and people.
- We are world leaders in spatial science and urban climatology.
- We are emerging leaders in urban planning and social equity, transportation, earth surface processes, urban systems analysis, human environmental systems.

SGSUP is committed to providing an inspiring educational experience for all students. Graduate students earning master's degrees acquire the skills needed to become leaders in their professions. Graduate students earning doctorate degrees develop high-level expertise in scholarship, garnering academic, government, and consulting positions and success as independent scholars. Faculty undertake research that is both useful to society and internationally influential. The School actively interacts with alumni to enhance life experiences and encourage them to creatively offer support for the School. SGSUP is a center of innovation and teacher training in geographic and urban planning pedagogy for Arizona's K-12 education. The School is noted for its distinctive mixing of geography and urban planning in teaching, research, and service.

## Research

At the School of Geographical Sciences and Urban Planning, our distinguished faculty members are focused on the world's most-pressing environmental and societal issues, including climate science and policy, water resource management, disaster relief, housing and community development, renewable energy and sustainable growth. With a central focus on location and urban places, we study how places are organized and function, what they mean to the people who live in them, and how they can be best adapted to meet tomorrow's challenges of environmental and societal change.

We offer research opportunities to both undergraduate and graduate students and collaborate with other Schools within the University and beyond to develop new approaches and ideas. The School also includes Editorial Board members for Proceedings of the National Academy of Sciences, Landscape and Urban Planning, Environmental Research Letters, and Annals, Association of American Geographers.

Visit the SGSUP Research webpage for more information.

# SGSUP Personnel

Led by Director Trisalyn Nelson, the school's nationally- and internationally-recognized faculty includes three members of the National Academy of Sciences as well as members of national and international committees and panels such as the National Research Council Geographical Sciences Committee and Intergovernmental Panel on Climatic Change.

Visit the SGSUP website for a complete directory of SGSUP faculty, students, and staff. Students are encouraged to establish a professional web presence by creating a profile page, which will appear both in the ASU Directory and SGSUP's graduate student directory. Instructions are available here. For questions, email SGSUP@asu.edu.

# Resources

## Facilities

The School of Geographical Sciences and Urban Planning is located on the fifth floor of Lattie F. Coor Hall, which was opened January 7, 2004. Coor Hall is a modern six-story glass and concrete building stocked with state-of-the-art technology. A computing commons is housed on the first floor and classrooms are located on the southern perimeter of the first floor and in the lower level, beneath the first floor. A computer lab with GIS-equipped Apple-Mac computers is located on the first level. A second computer lab was recently completed on the fifth floor of Coor Hall and both these labs belong solely to SGSUP. Studio space is located in Stauffer Hall, which is located beside and directly north of Coor Hall. Several classrooms on the second floor were renovated to provide two new spacious designated classrooms/workshops/studios.

## Computing

With computer-equipped workshop space and two computer laboratories the School is well-served and has the computer capability to successfully support the new technology-based course work. Course fees pay for the purchase and maintenance of this equipment; the computers are state-of-the-art. SGSUP's GIS program computers are cutting-edge.

Each designated planning studio/classroom is equipped with eight student-use computers. The computers are available to students for research and study in the open lab time between the classes scheduled in the room.

Between each studio is a small copy room equipped with a network-connected Canon imageRUNNER combination color copier, scanner, and network printer. Students also have use of a poster-size HP Plotter and a network-connected multi-function Canon imageRUNNER 5050.

The University Technology Office (UTO) provides a variety of services and applications, including those required for development, research, and other learning needs. A UTO Systems Support Analyst has offices onsite to provide IT support to SGSUP students, faculty, and staff.

# Academic & Professional Services

## ASU Library

The ASU Library system has over 3 million volumes and comfortably supports teaching and research for both students and faculty. Reflecting its recent emphasis on shifting to electronic content, ASU Library has aggressively licensed full-text journal packages and databases for use by students and faculty. Accessed from campus or remotely, these materials are available 24 hours a day, 7 days a week. Faculty and students can electronically request (non-Reserve) books from any of the four campus libraries to be picked up in whichever library is most convenient; these books can be returned to any ASU Library location.

When materials are not available in any of the ASU Library locations, ASU Library provides subsidized inter-library loan services for faculty and students.

The Architecture and Environmental Design (AED) Library holds over 55,000 items including books, periodicals, CD-ROMs, videos, and microforms. The AED Library's subject coverage focuses strongly on Design, including: Architecture, Landscape Architecture, Urban Design, Housing, Planning, Interior Design, Graphic Design, and Industrial Design. It provides access to an excellent collection of books, periodicals, reports, videotapes, DVDs, CDs, microforms, archival drawings and collections all focused to support the Design disciplines.

Hayden Library, the main social sciences and humanities library, constitutes another valuable source of research information, particularly via its collection strengths in subject areas such as: social sciences, social policy, economic development, community development, and in its Government Documents Collection.

The School also is supported by the Noble Science Library in such subject areas as: transportation technology, environmental sciences, and GIS. It is further supported by the Map Collection in Noble Library with its extensive assortment of maps and aerial photographs (with particular emphasis on Maricopa County and Arizona -- including contemporary and historic images).

In addition to providing reference assistance in person, by telephone, or by e-mail in all of the ASU Library locations, the ASU Library system offers a 24/7 virtual real-time chat reference service. The subject librarian for Geographical Studies and Urban Planning is Mimmo Bonanni.

## Career Services

ASU Career Services offers many services and resources, including career advising, assistance with resume writing, interview preparation, networking, and job search. Career Services holds job fairs on-campus every semester and has recently implemented Handshake, a new online tool for connecting with prospective employers for internships and employment.

## Graduate Academic Support Center

ASU offers a dynamic, supportive learning environment and programs for ASU graduate students enrolled in any graduate certificate or graduate degree program.

Graduate Statistics Tutoring provides any graduate student with free one-on-one appointment-based tutoring for statistics coursework as well as peer guidance on the quantitative analysis portion of thesis, dissertations or other research projects. Graduate students can make an appointment with a consultant to discuss and work on:

- Statistics coursework
- Data cleaning and proper formatting

- How to perform analysis using software such as SPSS, SAS, R, Excel, Minitab and JMP
- How to explain the meaning and significance of your results in writing

Graduate students can work with consultants at Graduate Writing Tutoring at any stage of the writing process to hone their writing skills and to receive coaching advice about navigating graduate life. ASU offers both online writing tutoring in addition to four on-campus locations to serve ASU graduate students. The Tempe, Thunderbird, West, and Downtown Phoenix campus centers also offer graduate students a place to read and write or to meet with a writing group. ASU Writing Centers also facilitate Dissertation Writing Camps during the summer.

## Student Support Services

### Healthcare & Insurance

All students, whether they have health insurance or not, are eligible to use ASU Health Services. Graduate students must be enrolled in a graduate degree or certificate program and registered for at least three credit hours or one dissertation/thesis hour.

Visit ASU Health Services for additional information and instructions regarding Student Health Coverage Options, Eligibility & Enrollment.

International students will automatically be enrolled in the student health plan upon registration for class.

For students with an RA/TA appointment, refer to the ***Benefits*** section of the TA/RA Handbook for additional health insurance information.

All students are required to meet the measles, mumps, and rubella (MMR) immunization requirement before class registration. You will see a MMR Immunization hold in the ***Priority Tasks*** module in My ASU until your MMR information is received and verified. Read additional information about MMR and other immunization information at ASU Health Services.

### Disability Resources

The Disability Resource Center (DRC) provides services to qualified students with disabilities on all ASU campuses. Services include testing accommodations, note taking services, on-campus transportation, and more. Students new to ASU must log into DRC Connect to get started with registering with the DRC office. Contact DRC to determine eligibility and submit required documentation.

### Veteran's Resources

ASU has a robust veteran student services center. The Tillman Center offers advising, assistance with GI benefits, military transfer credit and other services. The Tillman Center is staffed almost entirely by veterans who relate to the challenges that new students experience and provide support in navigating complex governmental systems.

### Counseling Services

Students are eligible for personal counseling services at ASU. ASU Counseling Services offers confidential, time-limited, counseling and crisis services for students experiencing emotional concerns, problems in adjusting, and other factors that affect their ability to achieve their academic and personal goals. They will talk with you, help you identify solutions or support, and connect you with those services at ASU or in the community.

### Title IX

ASU is committed to providing an environment free from discrimination based on sex and provides a number of resources and services to assist students, faculty and staff in addressing issues involving sex discrimination, including sexual violence. The university's full statement and policies related to Title IX are available online.

## Business Services

### Student Accounts

Student Business Services offers a variety of student account services including tuition and billing, student refunds (including financial aid), receipt and payment processing, support for past due accounts, third party sponsorship assistance and loan repayment. Contact Student Business Services for assistance with student account questions.

### Parking and Transit

ASU offers many parking and transit services, including permitted lot and garage parking, campus shuttles, bike lockers and bike valets. Visit ASU Transportation for parking maps, shuttle routes, and permit policies. City of Tempe also has options for traveling to and from campus, including bus, neighborhood circulators, and light rail.

### Sun Card

Students must obtain an ASU identification card. The Sun Card is the official student ID for ASU and provides access to campus amenities and services, including secure buildings and elevators as needed. The Sun Card office is located in the Memorial Union lower level. Visit Card Services for more information on the types of cards offered.

## Campus Amenities

### Dining

There are multiple options for dining on-campus. Sun Devil Dining manages dining halls, kiosks, restaurants, and convenience stores in the Memorial Union and other locations at the Tempe campus. Students may make purchases with cash or conventional card payment, or use meal plan credits. Learn more about meal plans here.

### Shopping

Textbooks, supplies, ASU apparel and gifts, and computing technology can be purchased on campus at the Sun Devil Campus Stores. There are two locations at the Tempe campus, on Orange Street and at the Sun Devil Marketplace.

### Entertainment

ASU offers many options for culture and entertainment on campus. From top-rated Broadway shows at ASU Gammage to PAC-12 Sun Devil Athletics, from the ASU Art Museum to the Marston Exploration Theater, there is something for everyone.

# Costs (Tuition & Fees)

The costs of enrollment can be obtained from ASU Financial Aid and Scholarship Services. Tuition and fees are subject to annual approval by the Arizona Board of Regents.

The following programs assess an additional program fee above the posted tuition and university fees:

| Program | Fee |
|---|---|
| Geographic Information Systems (MAS) | $400 / credit hour |
| Urban and Environmental Planning (MUEP) | $1,750 / semester |

Use the Tuition Estimator to calculate estimated total cost of attendance.

For questions about tuition and fees, please contact the Student Accounts Office.

For questions about financial aid and cost of attendance, please contact Student Financial Assistance.

# Funding Your Education

There are various opportunities available for funding your educational and research-related travel expenses. Financial Aid for Graduate Students is a great place to start for need-based state and federal financial aid, including loans and scholarships. International students, while not eligible for state or federal aid, can visit Financial Aid for International Students for other resources available for funding graduate study at ASU.

## Fellowships

Graduate College offers various fellowships and awards to graduate students. Some awards require department nomination; some are open for student application. Information and instructions regarding applying for these awards will be sent to the student listservs periodically.

The Graduate and Professional Student Association (GPSA) is student organization that offers funding opportunities for graduate students. Visit GPSA's funding webpage for more information.

SGSUP also administers various fellowships and awards. Information regarding applying for these awards will be sent to the student listservs periodically.

Local, national, and international award opportunities are also available from planning and geographical organizations.

Students are responsible for observing application deadlines.

## Assistantships

Assistantships with half-time (20 hours per week or .50 FTE) appointments receive a full tuition remission and student health insurance at no cost; however, enrollment in the insurance plan is required each semester. Spring semester insurance coverage includes the summer months.

Assistantships with quarter-time (10 hours per week or .25 FTE) appointments receive a 50 percent reduction in in-state resident tuition. Those with an appointment of quarter-time or more are treated as in-state residents for tuition purposes.

In addition, assistantships pay a small stipend, outlined below. For more information on assistantship benefits and eligibility, please refer to Graduate College.

Students admitted without funding commitments may be considered for TA positions on a semester-by-semester basis. Students may apply for teaching assistantships online and must do so each semester. Students are responsible for observing application deadlines.

International students on F-1 and J-1 visas are eligible for assistantships but should consult with the International Student Services Center to ensure compliance with university and U.S. immigration policy. Students on H-1B visas are not eligible to hold RA or TA positions.

### Teaching Assistants/Associates

TAs provide services which may include lecturing, leading discussion groups, serving as assistants to laboratory classes, and grading tests and papers, under the supervision of a faculty supervisor. The Diary of a New TA offers a wealth of information to help TAs have a successful teaching experience. It contains information on designing syllabi, managing a classroom, student Code of Conduct and much more.

TA compensation:

| | FTE | Duration | Compensation | Note |
|---|---|---|---|---|
| PhD | 0.50 | academic year | $20,000 | prorated for .25 FTE appointments and for one-semester appointments |
| MUEP | 0.25 | semester | $3,750 | MUEP TAs are appointed by semester |

The Teaching Assistant Development (TAD) Program is required for all newly hired TAs and designed to provide new Teaching Assistants/Associates (TAs) with an orientation to ASU and the TA position. The role of the TA varies widely across campus and the TAD program seeks to meet the needs of each TA by providing development that can be customized.

Students who are non-native English speakers who wish to be considered for a teaching assistant position must meet spoken English proficiency requirements. This includes students who may have had TOEFL or IELTS requirements waived for admission.

Spoken English proficiency can be demonstrated in four ways:

- SPEAK Test score of 55
- TOEFL (iBT) oral portion: score of 26
- IELTS spoken portion: score of 8
- ITA Teacher Training: pass with result of Certified

Requirements must be met prior to starting a TA assignment. For more information visit the International Teaching Assistant Program or contact globallaunchITA@asu.edu.

### Research Assistants/Associates

RAs are selected for excellence in scholarship and promise as researchers. They do part-time research as a portion of their training under the direct supervision of regular faculty members. RA appointments are generally only available to PhD students.

RA stipend compensation is based on experience:

| | FTE | Duration | Compensation |
|---|---|---|---|
| 1st Year RA | 0.50 | academic year | $17,000 |
| 2nd Year RA | 0.50 | academic year | $19,000 |
| 3rd Year RA | 0.50 | academic year | $21,000 |

RA stipends are capped at $21,000 and prorated for .25 FTE appointments and for one-semester appointments.

TA/RA appointments are, by definition, semester appointments. TAs/RAs should not assume that they will be reappointed merely because no notification or termination at the end of the appointment period has been received. Reappointments are subject to and contingent upon the continuing availability of funds and the TA's/RA's satisfactory performance. TAs/RAs will work directly with a faculty supervisor to coordinate duties and work hours. Faculty supervisors will approve absence and leave requests and will evaluate TA/RA performance at the end of each semester.

In considering reappointments, the hiring unit or project director must consider the TA's/RA's contribution to the objectives of the unit or project along with the assistant's/associate's academic progress. Students must maintain Satisfactory Academic Progress in order to be eligible for an assistantship.

## Funding Guarantee

Selected PhD applicants will be offered up to four years of funding, which will be in the form of research or teaching assistantships, fellowships, or any combination of these. Funding packages are officially offered to selected students in writing upon admission to the program.

MUEP applicants who apply by the funding deadline are considered for one or two-year funding packages on a merit basis.

MA Geography and MAS Geographic Information Systems students are not eligible for funding packages, although they may apply for student employment.

## Research Support Funding (PhD)

PhD students are eligible to receive up to $350 in research support funding annually, while they are within their funded period. PhD students who have reached candidacy and are outside their funded period are not eligible for research support funding without explicit approval from the Associate Director of Research-Based Graduate Programs.

Research support funds may be used for travel, equipment, datasets, and other resources. Submit the *Research Support Funds Request* to initiate purchase requests. Refer to How to: Travel for information on booking and paying for travel with SGSUP.

## MUEP Opportunity Fund

The MUEP Opportunity Fund provides MUEP students up to $400 annually. This funding will be usable for a variety of expenses that might include the purchase of data for analysis in a project, specialized software to conduct such analysis, travel to a professional conference to present a paper or to better prepare for post-graduate career or to a field site to conduct research related to a course, thesis or capstone project.

Submit the *Research Support Funds Request* to initiate purchase requests. Refer to How to: Travel for information on booking and paying for travel with SGSUP.

# SGSUP Policies and Procedures

## Student Responsibility

It is the responsibility of each student to understand and observe all procedures and requirements specified by Graduate College and the School of Geographical Sciences and Urban Planning. It is a requirement for all SGSUP students to read and understand the SGSUP Graduate Programs Handbook, the Graduate College Policies and Procedures Handbook and the ASU Academic Catalog. Faculty and staff provide academic advising and assistance; however, the ultimate responsibility for meeting degree and other requirements remains with the student.

## Advising

### Faculty Advisors

When students are admitted into their degree program, they are assigned a faculty advisor. The advisor-advisee match is made based on mutual research and topical areas of interest. Faculty advisors provide guidance on elective coursework, applied projects, research, and career advice or support. The faculty advisor also acts as the chair of the supervisory committee for PhD and MA students and MUEP students completing a thesis or applied project.

### Academic Advising

Students are responsible for meeting all degree and program requirements, however, SGSUP graduate support staff are available to assist with interpreting policies and navigating university systems. Graduate support staff provide advising in many areas, including but not limited to:

- Admissions
- New student orientation
- Registration (including overrides/waivers)
- Degree requirements
- Plan of study
- Degree milestones (eg., exams, defense)
- SGSUP policy
- Graduate College policy
- Funding opportunities (including RA/TA)
- Graduation

### Advising Appointments

Advising is available by email, appointment, or walk-in. Students can visit the graduate advising webpage to make an appointment or view the walk-in hours during a given semester. Students are strongly encouraged to review the SGSUP Graduate Programs Handbook prior to making an advising appointment. MUEP students can visit the Advising and Career Development webpage for detailed information on who to contact

for specific questions. General inquiries sent to SGSUP.gradadvising@asu.edu will be routed to the appropriate person.

| Program | Contact |
|---|---|
| Academic advising (all programs) | Rebecca Reining, Manager of Graduate Programs |
| MUEP career/professional development advising | Eileen Baden, MUEP Program Coordinator Senior |
| MAS-GIS career/professional development advising | Stephanie Deitrick, MAS-GIS Program Director |
| Prospective students (all programs) | Zaellotius (Zee) Wilson, Graduate Admissions Coordinator |

## Class Registration

Students are required to register in or drop classes by the deadlines listed on the Academic Calendar. To swap a class or to enroll in a class after the add-drop deadline, complete the Enrollment Change Request and obtain required signatures.

Some courses require students to request permission to enroll. There are two types of permissions that may be needed. One is through obtaining a class number. The other is an override.

### Class Number

Some courses do not appear in the published Schedule of Classes, therefore students must request a class number to enroll in these courses. These "omnibus" courses include:

- Applied Project
- Thesis
- Research
- Reading and Conference
- Dissertation
- Continuing Registration

To request a class number: complete the *Request to enroll in Omnibus Courses*. Student will receive instructions for registering in the course via email within 5-7 business days. Students must allow for processing time when submitting this request. E.g., if the request is submitted two days before the add-drop deadline, it may not be processed in time to enroll by the deadline.

The class number is valid only for one semester and must be requested each semester registration is desired.

### Overrides

Some courses will require students to obtain override permission. The most common reasons for students to be unable to enroll in courses are: instructor approval required, department consent required, and course full. Most SGSUP students should be able to enroll in department-offered courses without an override.

To request an override: obtain written/email approval from faculty member. Forward faculty approval to SGSUP.gradadvising@asu.edu. Complete the *Request an Override* form. Student will receive instructions for registering in the course via email within 5-7 business days. Students must allow for processing time when submitting this request. E.g., if the request is submitted two days before the add-drop deadline, it may not be processed in time to enroll by the deadline.

Courses that are outside of SGSUP may also have course permissions that restrict registration. All inquiries regarding courses that are not offered by SGSUP (GCU, GIS, GPH, PUP) must be directed to the department offering the course.

## Program Communications

The School utilizes the following procedures to disseminate new and/or changing information about SGSUP programs:

### Email

Email is the official method of university communications. **Students must use their assigned ASU email address or they will miss important program communications.** Program information is disseminated via email through the student listserv to those addresses. Please include your ten-digit ASU ID# in all emailed communications with the SGSUP graduate support staff and Graduate College.

For general inquiries, please use the following email address: SGSUP.gradadvising@asu.edu

ASU email can be forwarded to your personal email address by following these instructions. Be aware that this does not work with all communications; automated messages and distribution list messages may not forward properly. Visit this Knowledge Article to learn more about the potential issues with email forwarding.

Students are responsible for checking email and responding to requests in a timely manner.

### Listserv

Program changes and announcements are communicated via the SGSUP listservs. Program staff will add all new students' official ASU email addresses to the appropriate listservs.

| List | Subscribers |
|---|---|
| asugeog@asu.edu | Geography (PhD), Urban Planning (PhD), Geography (MA), and relevant staff/faculty |
| mueplist@asu.edu | MUEP and relevant staff/faculty |
| gradgsup@asu.edu | PhD, MA, and MUEP students only |

### Blackboard

The SGSUP Graduate Student HUB on Blackboard houses program information, process guides, program handbook, and various documents referenced in this handbook. Program staff will add all new students to the Blackboard site.

### Social Media

Follow SGSUP on social media:

- Facebook @asu.sgsup
- Twitter @ASU_GeoPlan
- Instagram @asu.sgsup

# Professional Development

## Student Organizations

Visit SGSUP's Clubs and Organizations webpage for opportunities to get involved in organizations such as:

- ASU Chapter, American Society for Photogrammetry and Remote Sensing (ASPRS)
- Gamma Theta Upsilon Geography Honor Society (GTU)
- Student Planning Association at ASU (SPA)

These organizations, sponsored by SGSUP, support the School and foster communication and professional development within the ASU community and beyond.

## Graduate Student Committee

SGSUP has an active Graduate Student Committee with elected representatives. The Committee represents various student interests for academic-track Geography and Urban Planning students. The Committee seeks to meet a diverse set of goals:

1. Improve student life
2. Support institutional memory
3. Increase information flow to graduate students
4. Support graduate student success
5. Strengthen community within the School

The Graduate Student Committee will send news, updates, and information to students via the listservs throughout the academic year. Elections are held in August to select offices for the upcoming academic year.

## Graduate & Professional Student Association

The Graduate and Professional Student Association (GPSA) exists to advocate for and provide support and services for the graduate and professional student community of Arizona State University. GPSA advocates on behalf of graduate and professional students at local, state, and national levels, provides a forum for open dialogue between the graduate and professional student body and the university, aids in student organization and involvement, and administers services, resources, and benefits for the larger graduate body.

GPSA provides resources for graduate students including:

- Funding
- Events and activities
- Professional development
- Wellness programs
- Volunteer opportunities

## Central AZ AMS-NWA

The Central Arizona Chapter has been serving Phoenix, Tempe, and other communities in central Arizona since its founding in 1967. We are the local joint chapter of the American Meteorological Society and the

National Weather Association, with an active membership of over 100 operational professionals, broadcast meteorologists, academics, students, and weather enthusiasts.

Founded in 1919, the American Meteorological Society (AMS) is the nation's premier scientific and professional organization promoting and disseminating information about the atmospheric, oceanic, hydrologic sciences. Our more than 13,000 members include scientists, researchers, educators, broadcast meteorologists, students, weather enthusiasts, and other professionals in the fields of weather, water, and climate.

The National Weather Association (NWA) is a professional association supporting and promoting excellence in operational meteorology and related activities since 1975. Members have many opportunities to share information, news, studies and concerns related to operational meteorology and to network with great people in a wide variety of careers (from well-known senior professionals to weather enthusiasts).

### Arizona Planning Association Arizona (APA AZ) Mentorship Program

This career development program offered by the American Planning Association Arizona Chapter provides ASU planning students an opportunity to network with local planning professionals at regular intervals throughout the school year. The program aims to match students' interests with professionals' areas of expertise by tapping into the Phoenix area's diverse talent pool. Public- and private-sector planners have volunteered to visit with ASU students in one-on-one or small group settings. The overall structure is specifically designed to provide enough guidance to develop meaningful relationships, yet flexible enough to accommodate the specific needs of students and schedules of busy professionals. The program's mentors - ranging from young professionals to seasoned pros – sign on to support career development in a variety of ways, such as:

- Exposing students to a variety of planning specializations;
- Attending a professional development event and/or public meeting together;
- Assisting with course selection;
- Critiquing individual resumes and portfolios;
- Conducting mock interviews and helping to strengthen students' interview skills; and
- Providing pointers to assist in the internship and job search.

In order to join the Mentorship Program, a student must commit to meeting with his or her assigned mentor on a regular basis. Watch your email for an invitation to participate in the APA AZ Mentorship Program.

### Planning Career Fair

The ASU Planning Career Fair is held each year in late March or early April, in the late afternoon on a weekday. This event is open to undergraduate and graduate students studying planning.

The Planning Career Fair opens with a panel of professionals who will discuss their insights on career development in planning. The second part of the event is a mixer, with planners seated at conference tables, and students welcome to mingle. Some organizations will be offering internships or recruiting for jobs – and all participants will be happy to talk with you about planning careers.

## Code of Conduct

All students are expected to adhere to the ABOR Student Code of Conduct. Violations of the Student Code of Conduct, other than the provision concerning academic dishonesty, are more generally considered inappropriate behavior. The Office of Student Rights and Responsibilities reviews and sanctions these

matters. If a student violates both the academic integrity provision and additional provisions of the Student Code of Conduct, both the college and the Office of Student Rights and Responsibilities will review the matter. Each independently makes determinations concerning violations and appropriate sanctions.

## Academic Integrity

ASU has clear definitions of academic integrity. The ASU student academic integrity policy lists violations in detail. These violations fall into five broad areas that include, but are not limited to:

- Cheating on an academic evaluation or assignment
- Plagiarizing (includes self-plagiarism)
- Academic deceit, such as fabricating data or information
- Aiding academic integrity policy violations and inappropriately collaborating
- Falsifying academic records

Violation of these standards can result in course failure or expulsion from the program. Refer to CLAS Academic Integrity for more information.

## Grievances and Appeals

Students who are enrolled in a College of Liberal Arts and Sciences (CLAS) course and believe they have been unfairly or improperly graded may be assured of just treatment and fair consideration. Any such grievance must be started within the regular semester immediately following the course at issue, whether the student is enrolled in the university or not.

There are two stages to the grade grievance process, the informal process and the formal process. Each contains a series of steps. The steps must be followed by any student seeking to appeal a grade. This process does not address academic integrity allegations, faculty misconduct or discrimination.

Refer to the CLAS Academic Grievance Policy for more information and specific processes.

## Probation, Remediation, and Dismissal

All graduate students are expected to make systematic progress toward completion of their degree. This progress includes maintaining Satisfactory Academic Progress, and achieving the milestones and requirements set by the individual degree programs as well as the Graduate College. If a student fails to satisfy the requirements of their degree program and/or the milestones outlined in the Programs Section, the student may be placed on probation or dismissed from their program.

Students are placed on academic probation whenever their overall graduate GPA, cumulative ASU GPA, or iPOS GPA drops below 3.0. Students on academic probation have one semester to raise the GPA to 3.0 or above and thus return to good standing. Students will be notified in writing of their probationary status, and are expected to follow up with their faculty advisor or the Manager of Graduate Programs to discuss remediation plans or other strategies for improving academic performance. Upon meeting the conditions of probation, the student will be notified in writing of their restoration to good academic standing.

No grades of Incomplete may accrue while a student is on probation, and Incompletes received prior to the probationary period must be completed by the end of the probationary period.

A recommended dismissal of a student from the program represents the determination of the faculty that the student has not demonstrated an expected level of performance in academic work, including research tasks, or in other critical areas of professional conduct. At the point of recommended dismissal, the student will not be given additional opportunities to remediate the deficiency. Depending on the circumstances, recommended dismissal might follow a period of academic probation. In other cases, it might not involve probation.

Rules regarding recommended dismissal of a student from the program include the following:

1. The dismissal discussion is confidential.
2. The student may, but is not required to, appear before the faculty, or provide the faculty with a written statement, or both. Any oral or written statement by the student is expected to focus solely on the behavior at issue.
3. Performance standards on which a recommended dismissal could be based are written and made available to students upon entering the program. These standards may be found in a variety of sources internal and external to the program. Internal program documents include course syllabi, evaluation criteria, program milestone deadlines, and comprehensive examination standards. Documents external to the program include university regulations concerning academic or scientific misconduct, and federal regulations regarding the conduct of research with human subjects, as administered by the Institutional Review Board at ASU. Documents external to the program, being subject to change at any time, always supersede internal program documents when there are discrepancies between them.
4. The dismissal recommendation is made by the faculty as a whole on a majority vote, based on examination of the evidence.
5. If the faculty's decision is in favor of dismissal, the recommendation to dismiss the student is communicated in writing to the student and to Graduate College. The Dean of the Graduate College makes the final determination.

# Graduate College Policies

## Plan of Study

The Plan of Study specifies the degree requirements such as coursework, committee, and culminating experience that students must complete. It is submitted and revised electronically via the interactive Plan of Study system (iPOS), accessed from the ***My Programs*** module in MyASU. The Plan of Study functions as a contract between the student, the academic unit, and Graduate College.

Students must submit their iPOS by the time they have enrolled for 50 percent of the minimum credit hours required for their degree program. Students will be notified via MyASU when the iPOS requires submission. If the iPOS is not submitted by Graduate College's deadline, a registration hold will be placed on the student's account.

The iPOS must be approved by the Manager of Graduate Programs and Graduate College. Refer to the Graduate College guide or How to: iPOS for details on submitting your Plan of Study.

An approved iPOS must be on file prior to completing comprehensive exams, dissertation proposal/ prospectus, and thesis/dissertation defense.

Consult with your faculty advisor, Manager of Graduate Programs, or MUEP Program Coordinator to determine what coursework is applicable to your degree and is required on the iPOS. *Plan of Study worksheets* are also available to assist with planning coursework. Refer to the Program Sections for degree requirements and curriculum.

### Course Waivers

Students who have taken graduate coursework at other universities that may satisfy a program requirement at ASU may petition the faculty to waive the ASU requirement in favor of the previous coursework. A petition consists of the *Course Waiver Form*, the syllabus of the previously taken course, and any other materials (e.g., course description, reading list, exams) that speak to the nature of the course. The student presents the petition to the advisor, who makes a determination of course equivalence.

### Transfer/Pre-Admission Credits

Students who have taken graduate coursework prior to admission to SGSUP may petition to include the transfer or pre-admission credit on the iPOS if the credit has not been used toward a previous degree. A petition consists of the *Petition for Transfer or Interdisciplinary Elective Course*, the syllabus of the previously taken course, and any other materials (e.g., course description, reading list, exams) that speak to the nature of the course. The student presents the petition to the advisor, who makes a determination of course equivalence. The student is required to submit these courses on their iPOS. The official transcript of the institution where these credits were earned must be on file with Graduate Admissions.

Graduate courses taken prior to admission that are included on the iPOS must have been completed within three years of the semester and year of admission to the program. Credits earned prior to admission are subject to ASU Graduate College's policy on pre-admission credits.

## Satisfactory Academic Progress

A student must achieve a 3.0 grade point average (GPA) or higher on all three GPAs (iPOS GPA, Cumulative ASU GPA, and Overall Graduate GPA) to maintain satisfactory academic progress and graduate. If a 3.0 GPA is not maintained, the student will be placed on academic probation. The student must work with her/his advisor to make meaningful progress toward meeting University and program requirements. Please see Graduate College Policy and Procedures for greater detail.

a. **iPOS GPA** is calculated from all courses that appear on the student's approved iPOS
b. **Cumulative ASU GPA** represents all courses completed at ASU during the graduate career
c. **Overall Graduate GPA** is calculated from all courses numbered 500 or higher that appear on the transcript, with the exception of courses counted toward an undergraduate degree at ASU (unless shared with a master's degree in an approved bachelor's/master's degree program); and courses identified as deficiencies in the original letter of admission

All work toward the PhD degree must be completed within ten (10.0) consecutive years. Master's degree programs must be completed within six (6.0) consecutive years.

## Continuous Enrollment

Once admitted to a graduate degree program, students must be registered for a minimum of one (1.0) graduate-level (500 or higher) credit hour for every fall and spring semester. Failure to register for any fall or spring term may result in being discontinued from the program. Refer to Graduate College for additional

details.

If enrollment is required but no course credit is needed, students may enroll in one (1.0) credit of Continuing Registration to meet the continuous enrollment policy. Refer to Class Registration for enrollment guidelines.

Additional credit hours over the one may be required for students with RA/TA appointments, fellowships, or international students. Students are responsible for knowing the terms of their own employment, awards, or immigration documents.

Summer registration is only required for students who are in any way using university facilities or faculty time during the summer. This includes:

- completing any culminating experience
- working on or defending the applied project or capstone
- doing an internship for credit
- taking a comprehensive exam
- defending a prospectus
- defending a thesis or dissertation
- having an RA/TA appointment
- graduating from the degree program

### Leave of Absence

Students may request up to two semesters of non-enrollment during their entire program. Submit a Leave of Absence petition via the iPOS. A petition for a leave of absence endorsed by the student's faculty advisor, the members of the student's supervisory committee, and the Manager of Graduate Programs or the School Director must be approved by Graduate College. This request must be submitted and approved before the anticipated semester of absence.

### Medical/Compassionate Withdrawal

Students may be eligible for a medical or compassionate withdrawal due to extenuating circumstances such as a serious physical or mental illness (medical withdrawal) or the death/serious illness of a family member (compassionate withdrawal). Refer to the College of Liberal Arts and Sciences for withdrawal procedures. For more information regarding University medical and compassionate withdrawal policies, visit the Office of the Registrar.

## Graduation

Students must apply for graduation via MyASU when ready; degree conferral does not happen automatically. Credentials evaluators in the Office of the Registrar must verify that students meet all degree requirements. All SGSUP program and Graduate College requirements must be met.

Commencement is a University ceremony; Convocation is a College ceremony. These are held twice annually, in the Fall and Spring. Attendance is not required but students must RSVP via MyASU if they wish to attend.

Commencement regalia (cap, gown, hood, stole) is available from the Sun Devil Campus Stores. Visit their website after applying for graduation to order your regalia. Some items are available in store during the weeks leading up to commencement, but supplies are limited. It is recommended that students order their items during the Grad Fair.

# PROGRAM SECTIONS

# Geography (MA)

## About

The Geography (MA) program is designed to offer specialized academic and professional training in geographical sciences that enables students to secure a sound graduate background for further specialization or for immediate employment. The program has sufficient flexibility to allow for the individual needs and the interests of students.

Faculty and graduate students focus their research in one of four broad interdisciplinary themes:

- Computational Spatial Science
- Place, Identities and Culture
- Earth Systems & Climate Science
- Sustainability Science & Studies

## Admission

**Application Deadline** January 15

**Application Materials**

Graduate Admissions online application

Personal Statement

Resume or CV

Official undergraduate transcript

Three (3) letters of recommendation

GRE Score Report (competitive applicants have achieved the following scores or higher):

| **Fall 2017 admits (average)** | | **Fall 2018 admits (average)** | |
|---|---|---|---|
| Verbal & Quantitative combined | 311 | Verbal & Quantitative combined | 318 |
| Writing | 3.5 | Writing | 4.0 |

English Proficiency for non-native English speakers (TOEFL, IELTS, or PTE)

Geography (MA) Application Instructions

Geography (MA) Admission FAQs

## Curriculum

The Geography (MA) degree requires a minimum of 30.0 credit hours and defense of master's thesis.

Students are expected to complete all requirements for the MA degree in two years; this includes the final milestone of defending the thesis and the requirements associated with this step.

### Required Coursework

| Course | Title | Credits |
|---|---|---|
| GCU 529 | Contemporary Geographic Thought | 3.0 |
| GCU 585 | Geographic Research Design and Proposal Writing | 3.0 |
| GCU/GPH 591 | Seminar: Geography Colloquium (semester 1) | 1.0 |
| GCU/GPH 591 | Seminar: Geography Colloquium (semester 2) | 1.0 |
| GCU/GPH 591/598 | Seminar or Special Topic | 3.0 |
| GCU/GPH 599 | Thesis | 6.0 |
| **Total Required Credit Hours** | | **17.0** |
| Total Elective Credit Hours | | 13.0 |
| **Total Credit Hours Required for Geography (MA)** | | **30.0** |

### Electives

At least 13.0 credit hours of additional elective coursework and/or research is required. Any graduate level GCU, GIS, GPH, or PUP course may be taken as elective, including Research and Reading & Conference credits. Interdisciplinary courses may be taken, but must be approved by the department. Submit the *Petition for Transfer or Interdisciplinary Elective Courses* form to request approval. A maximum of six (6.0) credits of 400-level elective coursework may be included on the plan of study

Use the *Geography (MA) Plan of Study Worksheet* to assist in planning coursework.

## Sequence & Timeline

The following is the recommended course sequence and timeline of milestones for the Geography (MA) program. Work with faculty (mentor, committee chair or supervisory committee) to determine classes to take in order to complete the degree beyond the core required courses.

| | Fall (1st Semester) | Credits | Spring (2nd Semester) | Credits |
|---|---|---|---|---|
| **Year One** | **GCU 529** Contemporary Geographic Thought | 3.0 | **GCU 585** Geographic Research Design and Proposal Writing | 3.0 |
| | **GCU/GPH 591/598** Seminar or Special Topic | 3.0 | **GCU/GPH 591** Seminar: Geography Colloquium | 1.0 |
| | **GCU/GPH 591** Seminar: Geography Colloquium | 1.0 | Elective coursework | 6.0 |
| | **Total** | **7.0** | **Total** | **10.0** |
| | **Fall (3rd Semester)** | **Credits** | **Spring (4th Semester)** | **Credits** |
| **Year Two** | Elective coursework | 7.0 | **GCU/GPH 599** Thesis | 3.0 |
| | **GCU/GPH 599** Thesis | 3.0 | **Milestone:** Thesis Defense | |
| | **Total** | **10.0** | **Total** | **3.0** |

Thesis credits may be taken in any combination that adds up to six (6.0), but students are recommended to take them in the final year of the program. Student should consult with faculty advisor prior to enrolling in thesis.

## Thesis

The student is required to work with the supervisory committee to develop the written thesis. With chair and committee approval, the student may schedule the oral thesis defense.

Upon approval of the thesis manuscript by the supervisory committee, the student will schedule an oral defense of the completed thesis, in consultation with committee chair and members. Students must complete all non-thesis coursework and resolve all incomplete grades before the oral defense. The student should adhere to all Graduate College procedures and deadlines for scheduling the defense and submitting the completed thesis.

Refer to How to: Thesis/Dissertation for step-by-step instructions.

# Geography (PhD)

## About

The Geography (PhD) program offers a path to building the skills, knowledge and aptitudes needed for a career focused in research or post-secondary teaching in geographical sciences. In addition to innovative coursework, graduate students also have opportunities to work with exceptional faculty on interesting and diverse research projects.

The program admits students who have completed a master's degree, and also offers an option for students with strong potential to enter the PhD program directly after completing a bachelors' degree. Students entering directly from an undergraduate degree program have the opportunity to earn the Geography MA in passing.

Faculty and graduate students focus their research in one of four broad interdisciplinary themes:

- Computational Spatial Science
- Place, Identities and Culture
- Earth Systems & Climate Science
- Sustainability Science & Studies

## Admission

**Application Deadline** December 1

**Application Materials**

Graduate Admissions online application

Personal Statement

Resume or CV

Official undergraduate transcript

Official graduate transcript (if entering with a master's degree)

Three (3) letters of recommendation

GRE Score Report (competitive applicants have achieved the following scores or higher):

| Fall 2017 admits (average) | | Fall 2018 admits (average) | |
|---|---|---|---|
| Verbal & Quantitative combined | 316 | Verbal & Quantitative combined | 318 |
| Writing | 3.5 | Writing | 4.0 |

English Proficiency for non-native English speakers (TOEFL, IELTS, or PTE)

Geography (PhD) Application Instructions

Geography (PhD) Admission FAQs

## Curriculum

**Entering with a master's degree:**

The Geography (PhD) degree requires a minimum of 54.0 credit hours taken at ASU, completion of the Research Requirement, completion of comprehensive examination, and defense of doctoral prospectus and dissertation. Students should apply thirty (30.0) credit hours from the previously awarded master's degree toward their doctoral Plan of Study, for a total of 84.0 earned credit hours.

The PhD program is designed to be completed in four years when entering with a master's degree; this includes the final milestone of defending the dissertation and the requirements associated with this step.

**Entering without a master's degree:**

The Geography (PhD) degree requires a minimum of 84.0 credit hours, completion of the Research Requirement, completion of comprehensive examination, and defense of doctoral prospectus and dissertation.

The PhD program is designed to be completed in five years when entering without a master's degree; this includes the final milestone of defending the dissertation and the requirements associated with this step.

### Coursework

| Course | Title | Credits |
|---|---|---|
| GCU 529*[1] | Contemporary Geographic Thought | 3.0 |
| GCU 585 | Geographic Research Design and Proposal Writing | 3.0 |
| GCU/GPH 591 | Seminar: Geography Colloquium (semester 1) | 1.0 |
| GCU/GPH 591 | Seminar: Geography Colloquium (semester 2) | 1.0 |
| GCU/GPH 591/598 | Seminar or Special Topic | 3.0 |
| GCU/GPH 591/598 | Seminar or Special Topic | 3.0 |
| GCU/GPH 799 | Dissertation | 12.0 |
| **Total Required Credit Hours** | | **26.0** |
| Total Elective Credit Hours (entering without master's degree) **OR** | | 58.0 |
| Total Elective Credit Hours (entering with master's degree) **AND** | | 28.0 |
| Total Master's Degree Credit Hours (entering with master's degree) | | 30.0 |
| **Total Credit Hours Required for Geography (PhD)** | | **84.0** |

*GCU 529 may be waived and substituted with an alternative course, subject to department approval. Please submit the *Course Waiver Form* to check for waiver eligibility.

[1]GCU 529 is a required course for the Master of Arts in Passing. Students entering the program without a master's degree, who are planning on applying for the MIP, must take GCU 529.

### Electives

Additional elective coursework is required to meet the minimum number of hours (28.0 hours if entering with a master's degree, 58.0 hours if entering without a master's degree). Any graduate level GCU, GIS, GPH, or PUP course may be taken as elective; this includes Research and Reading & Conference credits.

Interdisciplinary courses may be taken, but must be approved by the department. Submit the *Petition for Transfer or Interdisciplinary Elective Courses* form to request approval. A maximum of six (6.0) credits of 400-level elective coursework may be included on the plan of study

Use the *Geography (PhD) Plan of Study Worksheet* to assist in planning coursework.

## Sequence & Timeline

The following is the recommended course sequence and timeline of milestones for the Geography (PhD) program. Work with faculty (mentor, committee chair or supervisory committee) to determine classes to take in order to complete the degree beyond the core required courses.

### Entering with Master's Degree

| | | | | |
|---|---|---|---|---|
| **Year One** | **Fall (1st Semester)** | **Credits** | **Spring (2nd Semester)** | **Credits** |
| | **GCU 529** Contemporary Geographic Thought | 3.0 | **GCU 585** Geographic Research Design and Proposal Writing | 3.0 |
| | **GCU/GPH 591/598** Seminar or Special Topic | 3.0 | **GCU/GPH 591/598** Seminar or Special Topic | 3.0 |
| | **GCU/GPH 591** Seminar: Geography Colloquium | 1.0 | **GCU/GPH 591** Seminar: Geography Colloquium | 1.0 |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Two** | **Fall (3rd Semester)** | **Credits** | **Spring (4th Semester)** | **Credits** |
| | Elective coursework | 7.0 | Elective coursework | 7.0 |
| | | | **Milestone:** Research Requirement | |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Three** | **Fall (5th Semester)** | **Credits** | **Spring (6th Semester)** | **Credits** |
| | Elective coursework | 7.0 | Elective coursework | 7.0 |
| | | | **Milestone:** Comprehensive Exam | |
| | | | **Milestone:** Dissertation Proposal/Prospectus | |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Four** | **Fall (7th Semester)** | **Credits** | **Spring (8th Semester)** | **Credits** |
| | **GCU/GPH 799** Dissertation | 6.0 | **GCU/GPH 799** Dissertation | 6.0 |
| | Elective coursework (if needed) | | **Milestone:** Dissertation Defense | |
| | **Total** | **6.0** | **Total** | **6.0** |

Entering without Master's Degree

| | | | | |
|---|---|---|---|---|
| **Year One** | **Fall (1st Semester)** | **Credits** | **Spring (2nd Semester)** | **Credits** |
| | **GCU 529** Contemporary Geographic Thought | 3.0 | **GCU 585** Geographic Research Design and Proposal Writing | 3.0 |
| | **GCU/GPH 591/598** Seminar or Special Topic | 3.0 | **GCU/GPH 591/598** Seminar or Special Topic | 3.0 |
| | **GCU/GPH 591** Seminar: Geography Colloquium | 1.0 | **GCU/GPH 591** Seminar: Geography Colloquium | 1.0 |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Two** | **Fall (3rd Semester)** | **Credits** | **Spring (4th Semester)** | **Credits** |
| | Elective coursework | 10.0 | Elective coursework | 10.0 |
| | | | **Milestone:** Research Requirement | |
| | | | **Milestone:** Master's in Passing | |
| | **Total** | **10.0** | **Total** | **10.0** |
| **Year Three** | **Fall (5th Semester)** | **Credits** | **Spring (6th Semester)** | **Credits** |
| | Elective coursework | 10.0 | Elective coursework | 10.0 |
| | **Total** | **10.0** | **Total** | **10.0** |
| **Year Four** | **Fall (7th Semester)** | **Credits** | **Spring (8th Semester)** | **Credits** |
| | Elective coursework | 10.0 | Elective coursework | 8.0 |
| | | | **Milestone:** Comprehensive Exam | |
| | | | **Milestone:** Dissertation Proposal/Prospectus | |
| | **Total** | **10.0** | **Total** | **8.0** |
| **Year Five** | **Fall (9th Semester)** | **Credits** | **Spring (10th Semester)** | **Credits** |
| | **GCU/GPH 799** Dissertation | 6.0 | **GCU/GPH 799** Dissertation | 6.0 |
| | Elective coursework (if needed) | | **Milestone:** Dissertation Defense | |
| | **Total** | **6.0** | **Total** | **6.0** |

Dissertation credits may be taken in any combination that adds up to twelve (12.0), but students are recommended to take them in the final year of the program. Student should consult with faculty advisor prior to enrolling in dissertation.

## Research Requirement

The Research Requirement must be completed by the end of the 4th semester. There are two options for fulfilling this requirement: Research Examination (RE); or Submitted Paper (SP). Student should discuss with their faculty advisor which option is best suited to their specialization and overall research interests.

### Research Examination (RE) Option

The research examination tests the ability to do independent research. PhD students who choose to do the research exam will prepare a statement of their area of specialization in geography and complete an intensive two-week research project culminating in a written paper, administered by the student's supervisory committee. The examination is appraised on the ability to:

- refine and hone a question into a manageable research problem
- couch the research problem in appropriate literature(s)
- acquire, organize, and synthesize relevant field information and data
- demonstrate technical competence in geographic skills
- express ideas, concepts, and lines of argumentation through clear, effective writing

One re-examination may be permitted pending approval by the examining committee and the School Director.

### Submitted Paper (SP) Option

The submitted (or published) paper option requires that the student submit a paper meeting the following requirements:

- first-authored manuscript
- in English
- submitted to a peer-reviewed journal (not a book chapter or conference proceeding)
- prepared in accordance with the journal's requirements
- Reviewed and approved by the student's advisor

Any previously published paper meeting all requirements can satisfy the SP option. This includes papers written at another department or university, co-authored with non-ASU authors, or based on a master's thesis completed elsewhere.

Failure to complete the Research Requirement by the end of the 4th semester may result in the loss of $350 in annual research support funds.

Reporting completion of the Research Requirement: submit the *Research Requirement* form to the Manager of Graduate Programs. It must be signed by the supervisory chair. For the SP option, students must also send a PDF of the paper and a copy of the confirmation letter or email from the journal to the Manager of Graduate Programs.

## Master of Arts in Passing (MIP)

Doctoral students can earn a Master of Arts (MA) in Geography en route to their PhD. Requirements consist of 30 credits of coursework already taken as part of the doctoral curriculum and completion of the Research Requirement.

Required courses for Master's in Passing:

| Course | Title | Credits |
|---|---|---|
| GCU 529 | Contemporary Geographic Thought | 3.0 |
| GCU 585 | Geographic Research Design and Proposal Writing | 3.0 |
| GCU/GPH 591 | Seminar: Geography Colloquium (semester 1) | 1.0 |
| GCU/GPH 591 | Seminar: Geography Colloquium (semester 2) | 1.0 |
| GPH/GCU 591/598 | Seminar or Special Topic | 3.0 |
| Elective coursework/research hours | | 19.0 |
| **Total** | | **30.0** |

Students with 30 credit hours from a previously awarded master's degree on their iPOS are not eligible.

**Procedure**

- Submit doctoral iPOS
- After iPOS is approved, student submits a Master's in Passing Request Form to Manager of Graduate Programs
    - Should be submitted once student has completed at least 15 credits toward MIP requirements, at least one semester prior to the planned completion of the Research Requirement
    - In ***Part 2*** of the MIP Request Form, student must check "Exam 1 - Written" option, with anticipated Research Requirement completion date supplied
- Graduate College reviews and approves MIP request and contacts student with next steps
    - Student must initiate a separate iPOS for the MIP
    - MIP iPOS should only list completed and graded coursework (see list above)
- After MIP iPOS is approved by Graduate College, student must apply for graduation from the MIP program
    - Student must be enrolled during the term in which they intend to graduate, including summer
    - Master's in passing degrees are awarded at the end of the semester for which they applied
    - Students earning the MIP are permitted to participate in commencement activities and must follow Graduate College and CLAS procedures accordingly

## Comprehensive Exam

### Written Exam

Students take a written comprehensive exam intended to assess their mastery of geographic thought and methods, and their field of specialization. The comprehensive examination is administered by the student's supervisory committee and consists of essay questions posed by each committee member. The questions may have multiple parts and may be specifically related to the member's discipline. The written exam should be completed by the end of the sixth semester (if entering with a master's degree) or the end of the eighth semester (if entering without a master's degree).

**Two options to satisfy the comprehensive examination:**

- An eight-hour "closed book" exam
- A three-day take-home exam, at the discretion of the student's supervisory committee

The essay question length and complexity will vary depending on which option is taken.

Reporting completion of the Written Comprehensive Exam: submit the *Comprehensive Exam Results* form to the Manager of Graduate Programs. It must be signed by all committee members.

### Oral Exam

After approval by the doctoral committee of the written comprehensive exam, students will have an oral exam intended to test a student's mastery of geographic thought and methods, and area of specialization. The oral exam will be based on the written portion of the exam, and students will be expected to be able to articulate and clarify the content of the written component. The oral exam is an assessment of whether a student is ready to participate in scholarly discussions, to proceed towards candidacy, and to submit a dissertation proposal.

The oral exam should be completed by the end of the sixth semester (if entering with a master's degree) or the end of the eighth semester (if entering without a master's degree). Students that fail to pass the oral exam will be given a second and final opportunity for an additional oral exam. A student that fails to pass the second oral exam will be recommended for dismissal from the PhD program.

Reporting completion of the Oral Comprehensive Exam: submit the *Comprehensive Exam Results* form to the Manager of Graduate Programs. It must be signed by all committee members.

## Dissertation Proposal/Prospectus

After passing the comprehensive exam, the student is required to submit a written dissertation proposal to the supervisory committee. As part of the dissertation proposal, the student is required to submit a publication plan (including research question(s) posed and motivation, assumptions made and methods employed, and anticipated time to completion) indicating the strategy for completing publishable papers, intended for the peer-review literature, from the dissertation. Upon successful defense of the proposal, the student advances to candidacy for the PhD.

Students must complete all non-dissertation coursework and examination requirements and resolve all incomplete grades (other than PhD research credit hours) before the oral examination.

The dissertation proposal defense should be completed by the end of the sixth semester (if entering with a master's degree) or the end of the eighth semester (if entering without a master's degree).

Scheduling the Proposal/Prospectus defense: Consult with supervisory committee members to select defense day and time. Visit SGSUP Room Reservations and request a room for your defense. Include set-up and break-down time in your reservation request. After you have a room confirmed, submit the *Schedule Prospectus/Proposal Defense* form. The Manager of Graduate Programs will contact the student with the next steps.

Reporting completion of the Proposal/Prospectus: Submit the *Results of the Dissertation Proposal or Prospectus* form to the Manager of Graduate Programs. It must be signed by all committee members.

## Dissertation Defense

Upon approval of the dissertation manuscript by the supervisory committee, the student will schedule an oral defense of the completed dissertation. The student should adhere to all Graduate College procedures and deadlines for scheduling the defense and submitting the completed dissertation.

Refer to How to: Thesis/Dissertation for step-by-step instructions.

## Performance and Annual Review

To ensure that students are making progress towards their degree in a timely manner, and to ensure the student's responsibilities are being met, the Associate Director, student's faculty advisor and RA/TA faculty supervisors will review students' progress annually. Students who are not making satisfactory progress or meeting their obligations may be dismissed from the program, placed on probation, or lose funding opportunities provided by the department. Reviews are conducted every spring; the Manager of Graduate Programs will send instructions and deadlines to students at the appropriate time.

Unsatisfactory reviews or failure to submit the annual review may result in the following:

- Warning
- Academic probation
- Losing partial or full department financial support, including RA/TA appointments and research support funds
- With the recommendation of the School Director a student can lose guaranteed funding or be dismissed from the graduate program.

# Urban and Environmental Planning (MUEP)

## Mission Statement

The MUEP's mission is to serve the planning profession and the public good by advancing knowledge and preparing students to assume leadership roles to foster inclusive, equitable, healthy, and sustainable communities, cities, and regions.

-PAB Accreditation Report, 2017

## About

The MUEP program is accredited by the Planning Accreditation Board. It is an interdisciplinary, professional degree designed to prepare students for leadership roles in planning in the public, private, and non-profit sectors. The curriculum includes a common core of required courses that provide linkage between knowledge and practice and fundamental theories and skills.

As active scholars and teachers in an accredited planning program, our faculty have a wide range of interests and expertise, including in the areas of:

- climate change
- disasters and resilience
- environmental planning
- housing and community development
- infrastructure planning
- international development
- public engagement
- the sharing economy
- smart cities
- social equity
- sustainability
- transportation and land use

Faculty research and teaching interests especially focus on the following broad interdisciplinary topical areas:

- City Building and Urban Structure
- Environmental and Resiliency Planning
- Spatial Analytics and Smart Cities
- Housing, Neighborhoods, and Community Development
- Transportation Planning and Policy

The MUEP program offers a unique opportunity to integrate urban and environmental aspects of planning in a rapidly developing metropolitan area. Individual practical experience in planning is provided through an optional internship program and applied research. In addition to the planning faculty, the program is enriched by the interdisciplinary participation of faculty from other academic units of the university and leading planning practitioners from the Phoenix area.

For more information on outcomes, certification, and employment data for MUEP graduates, visit MUEP Program Indicators.

## Admission

**Application Deadline**

January 15 deadline for funding consideration. Applications received after January 15 will be considered on a rolling basis until the program is full.

**Application Materials**

Graduate Admissions online application

Personal Statement

Resume

Official undergraduate transcript

Three (3) letters of recommendation

GRE Score Report* (competitive applicants have achieved the following scores or higher):

| **Fall 2017** | | **Fall 2018** | |
|---|---|---|---|
| Verbal | 158 | Verbal | 154 |
| Qualitative | 147 | Qualitative | 155 |
| Writing | 3.5 | Writing | 4.0 |

English Proficiency for non-native English speakers (TOEFL, IELTS, or PTE)

**waived for 4+1 applicants*

**Prerequisites**

Students must have successfully completed a course in statistics before entering into the MUEP program. The curriculum assumes a general knowledge of statistics. The statistics course must be completed with a grade of "C" or above and must be on an official transcript. Statistics courses can be completed at any accredited university or community college. The statistics prerequisite cannot be used toward meeting the 47 credit hours required for the MUEP program. Below are some suggested statistics courses at ASU. This list is not exhaustive or comprehensive. These are suggested courses only:

| | |
|---|---|
| COE 502 | Introduction to Data Analysis |
| EDP 454 | Statistical Data Analysis in Education |
| PLB 430 | Statistical Analyses in Environmental Science |
| POS 401 | Political Statistics |
| PSY 330 | Statistical Methods |
| SOC 390 | Social Statistics I |
| STP 420 | Introductory Applied Statistics |

Urban and Environmental Planning (MUEP) Application Instructions

Urban and Environmental Planning (MUEP) Admission FAQs

## Curriculum

The MUEP degree requires a minimum of 47 credit hours and completion of a culminating experience (planning workshop, applied project, or thesis).

Students are expected to complete all requirements for the MUEP degree in two years; this includes the final milestone of completing the selected culminating experience.

### Coursework

| Course | Title | Credits |
|---|---|---|
| PUP 501 | Planning, History and Theory | 3.0 |
| PUP 520 | Planning Practice, Ethics & Processes | 3.0 |
| PUP 571 | Planning Methods | 3.0 |
| PUP 531 | Planning & Development Control Law | 3.0 |
| PUP 542 | Environmental Planning | 3.0 |
| PUP 544 | Urban Land Use Planning | 3.0 |
| PUP 576* | GIS Workshop for Planners | 3.0 |
| PUP 642 | Urban and Regional Economic Analysis | 3.0 |
| PUP 580/593/599 | Culminating Experience (choose one) | 5.0 or 6.0 |
| **Total Required Credit Hours** | | **29.0 or 30.0** |
| Total Elective Credit Hours | | 18.0 |
| **Total Credit Hours Required for Urban and Environmental Planning (MUEP)** | | **47.0** |

*PUP 576 may be waived with sufficient GIS experience. Please submit the *Course Waiver Form* to check for waiver eligibility. If PUP 576 waiver is granted, students must select an approved methods course to substitute.

### Electives

At least 18.0 credit hours of additional elective coursework and/or research is required. Any graduate level GCU, GIS, GPH, or PUP course may be taken as elective. Interdisciplinary courses may be taken, but must be approved by the department if they are not on the Approved MUEP Electives list. Submit the *Petition for Transfer or Interdisciplinary Elective Courses* form to request approval. A maximum of 6.0 credits of 400-level elective coursework may be included on the plan of study but must be approved by the MUEP Director.

Use the *MUEP Plan of Study Worksheet* to assist in planning coursework.

## Sequence & Timeline

The following is the recommended course sequence for the MUEP program. Students should work with faculty mentor to determine classes to take in order to complete the degree beyond the core required courses. Students wanting to specialize in one of the five topical areas should work with the lead faculty for that area in planning their course of study. Most classes are offered only once per year (Fall only or Spring only). If students need to deviate from the below plan, contact the MUEP Program Coordinator to review options.

| | Fall (1st Semester) | Credits | Spring (2nd Semester) | Credits |
|---|---|---|---|---|
| **Year One** | **PUP 576** GIS Workshop for Planners* | 3.0 | **PUP 531** Planning & Development Control Law | 3.0 |
| | **PUP 501** Planning, History and Theory | 3.0 | **PUP 544** Urban Land Use Planning | 3.0 |
| | **PUP 571** Planning Methods | 3.0 | **PUP 520** Planning Practice, Ethics & Processes* | 3.0 |
| | Elective coursework | 3.0 | Elective coursework | 3.0 |
| | **Total** | **12.0** | **Total** | **12.0** |
| | **Fall (3rd Semester)** | **Credits** | **Spring (4th Semester)** | **Credits** |
| **Year Two** | **PUP 642** Urban and Regional Economic Analysis | 3.0 | **PUP 542** Environmental Planning | 3.0 |
| | Elective coursework | 9.0 | Elective coursework | 3.0 |
| | | | **PUP 580** Planning Workshop **OR** **PUP 593** Applied Project **OR** **PUP 599** Thesis | 5.0 or 6.0 |
| | **Total** | **12.0** | **Total** | **11.0 or 12.0** |

* PUP 576 is normally offered in the Spring; PUP 520 is normally offered in the Fall. The schedule will be swapped during Academic Year 2018-2019 only. Plan accordingly for future semesters.

## Concurrent Degrees

Three concurrent degree programs combining the Master in Urban and Environmental Planning (MUEP), and the Master in Sustainable Solutions (MSUS), Master of Public Policy (MPP), or Master of Public Administration (MPA) are available. There is strong evidence of the critical importance of incorporating sustainability or public administration/policy into planning education, curricula and practice. A demonstrated demand for a concurrent program where a student may obtain two master's degrees in planning and sustainability or public administration/policy in three years has resulted in this offering.

Students wishing to apply for the concurrent degree in Planning and Sustainability or Public Administration/Policy will have to apply to and be accepted by both programs. After being admitted, students must inform both programs that they wish to enter the concurrent degree program.

Each school will send a letter to Graduate College informing them that the student is admitted to their degree program and wishes to enter the concurrent degree program. Graduate College will then register the student in the respective concurrent degree program.

For more information about concurrent degree programs:

| MUEP/MSUS | MUEP/MPA | MUEP/MPP |
|---|---|---|
| Website | Website | Website |
| MSUS Advisor | MPA Advisor | MPP Advisor |
| Plan of Study | Plan of Study | Plan of Study |

## Accelerated Degree (4+1/IADP)

The School of Geographical Sciences and Urban Planning's fast track approach allows highly qualified students who are finishing their Bachelor of Science in Planning (BSP) to be enrolled simultaneously in the Master of Urban and Environmental Planning degree program. These students are permitted to take up to 18 credits of graduate courses as undergraduates after admission to the fast track.

Visit the Accelerated BSP-MUEP Program website and refer to the *Accelerated MUEP Plan of Study worksheet* for more information.

## Culminating Experience Options

### PUP 580 Planning Workshop

The planning workshop is offered to second year MUEP students who have completed all or most of the required courses and all of the core courses for the MUEP degree. This planning workshop immerses students in a real-world planning context to provide an integrative academic and professional experience. The final products for the course typically consist of a professional report and presentation. The instructor will stress individual accountability for all MUEP students involved in the planning workshop although group work is typically involved. The planning workshop is offered only in the spring semester, and should be taken in the student's last semester of study. Students must earn a grade of B or better in order to pass the Planning Workshop.

### PUP 593 Applied Project

The applied project involves the application of advanced planning methodologies to a specific, real-world planning problem and is prepared for a planning-related organization (the client). An applied project typically involves defining a problem; reviewing, selecting and applying appropriate methodologies to address the problem; and identifying a solution or recommendations, if applicable. The major objective of the applied project is to give students the opportunity to develop their planning problem solving abilities in a real-world setting.

Students contemplating an applied project should first discuss possible topics with faculty members and potential clients. The student will then select a supervisory committee. The committee is composed of at least three advisors, two of whom must be regular ASU faculty members, with a member from the planning faculty serving as chair or co-chair, and at least one planning professional from the client's office. The committee is expected to help the student focus on a topic that meets the student's professional goals and is feasible. Both the student and the committee must clearly understand their mutual expectations with respect to the amount of work to be done. Students must submit a *Project Scope Statement* to the MUEP Program Coordinator prior to beginning work on the applied project.

The student is responsible for knowing and meeting all deadlines, submitting the applicable paperwork,

establishing a committee, and preparing the project in the proper format, as determined by the client. The student will enroll in the PUP 593 Applied Project course under his/her committee chair during the last semester of the program. Normally, the project will involve five credit hours during the final semester of meeting the MUEP degree requirements. Students contemplating an applied project should be aware that this option may require a time commitment beyond that of the more typical course requirements. The applied project is always an individual student effort and solely authored by the student. All fees and expenses associated with the applied project are the student's responsibility. Students must earn a grade of B or better in order to pass the Applied Project.

### PUP 599 Thesis

A thesis is a creative, scholarly work developed from independent research. The research includes a literature review to delineate a problem or gap in knowledge, statement of objectives, formulation of hypotheses, explanation of methods, collection and analysis of data, report of results, discussion of conclusions, and an abstract. The major objective of the thesis is to provide students the opportunity to develop their creative abilities in one or more of the following areas:

- Defining and understanding urban planning problems or opportunities;
- Developing new knowledge and planning methods or strategies to address urban planning problems and opportunities;
- Understanding the structure and function of urban systems.

Thesis results must be: 1) presented orally in a public forum to the faculty and students, 2) presented in written format, and 3) potentially publishable in a peer-reviewed journal.

Students contemplating a thesis should first discuss possible topics with faculty members. It is the responsibility of the student to recruit three faculty members who are able to serve on the supervisory committee. One of the faculty must agree to serve as the committee chair. The committee is expected to help the student focus on a topic that meets the student's academic goals and is feasible. The student and committee must develop a thesis proposal, which summarizes the research problem and approach. The student then submits the thesis proposal to the thesis chair, ideally by the late spring of the first year. In the event that a student's summer research/professional work has the potential of becoming a thesis, a student may submit a proposal no later than the second week of September in the fall semester.

Students must complete all non-thesis coursework and resolve all incomplete grades before the oral defense. The student's thesis committee reviews the thesis manuscript. It must meet the committee's standards for quality, accuracy, and scope. Upon approval of the thesis manuscript by the supervisory committee, the student will schedule an oral defense of the completed thesis. The student should adhere to all Graduate College procedures and deadlines for scheduling the defense and submitting the completed thesis.

Refer to How to: Thesis/Dissertation for step-by-step instructions.

# Urban Planning (PhD)

## About

The Urban Planning (PhD) program will educate scholars for positions in leading universities, research institutions, nongovernmental organizations, international multilateral institutions, national, state and local governments, and high-level consulting firms. The program will provide a strong foundation for undertaking research in planning, urbanism, urban design and urban sustainability.

While topics and methods will be wide-ranging and will include spatial, theoretical and urban design inquiry, the focus of the doctorate will be on the built environment, its problems and potential solutions that improve the quality of life of urban residents.

### Research Opportunities

All graduate students benefit from a wide variety of course work and research opportunities in five broad interdisciplinary themes that span the expertise of the faculty within the School of Geographical Sciences and Urban Planning:

- City Building and Urban Structure
- Environmental and Resiliency Planning
- Spatial Analytics and Smart Cities
- Housing, Neighborhoods, and Community Development
- Transportation Planning and Policy

### Partnerships

The planning program works closely with the School of Sustainability, and many of our faculty have joint appointments in that school. We also have close relationships with many of the communities in the Phoenix metropolitan area.

## Admission

**Application Deadline** December 1

**Application Materials** Graduate Admissions online application

Personal Statement

Resume

Official undergraduate and graduate transcripts (minimum master's GPA 3.4)

Three (3) letters of recommendation

GRE Score Report (competitive applicants have achieved the following scores or higher):

| Fall 2017 admits (average) | | Fall 2018 admits (average) | |
|---|---|---|---|
| Verbal & Quantitative combined | 310 | Verbal & Quantitative combined | 315 |
| Writing | 3.5 | Writing | 4.0 |

English Proficiency for non-native English speakers (TOEFL, IELTS, or PTE)

Urban Planning (PhD) Application Instructions

Urban Planning (PhD) Admission FAQs

## Curriculum

The Urban Planning (PhD) degree requires a minimum of 54 credit hours taken at ASU, completion of written and oral comprehensive examination, and defense of doctoral prospectus and dissertation. Students should apply up to thirty (30) credit hours from a previously awarded master's degree toward their doctoral Plan of Study, for a total of 84 earned credit hours.

The PhD program is designed to be completed in four years; this includes the final milestone of defending the dissertation and the requirements associated with this step.

### Coursework

| Course | Title | Credits |
|---|---|---|
| PUP 710 | Current Planning Theory and Practice | 3.0 |
| PUP 724 | Planning Methods | 3.0 |
| PUP 701 | Seminar: Urban Planning Colloquium (semester 1) | 1.0 |
| PUP 701 | Seminar: Urban Planning Colloquium (semester 2) | 1.0 |
| PUP 799 | Dissertation | 12.0 |
| **Total Required Credit Hours** | | **20.0** |
| Total Elective Credit Hours | | 34.0 |
| Total Master's Degree Credit Hours | | 30.0 |
| **Total Credit Hours Required for Urban Planning (PhD)** | | **84.0** |

### Electives

At least 34.0 credit hours of additional elective coursework and/or research is required to meet the minimum number of hours. Any graduate level GCU, GIS, GPH, or PUP course may be taken as elective; this includes Research and Reading & Conference credits.

Interdisciplinary courses may be taken, but must be approved by the department. Submit the *Petition for Transfer or Interdisciplinary Elective Courses* form to request approval.

Use the *Urban Planning (PhD) Plan of Study Worksheet* to assist in planning coursework.

## Sequence & Timeline

The following is the recommended course sequence and timeline of milestones for the Urban Planning (PhD) program. Work with faculty (mentor, committee chair or supervisory committee) to determine classes to take in order to complete the degree beyond the core required courses.

| | | | | |
|---|---|---|---|---|
| **Year One** | **Fall (1st Semester)** | **Credits** | **Spring (2nd Semester)** | **Credits** |
| | **PUP 710** Current Planning Theory and Practice | 3.0 | **PUP 724** Planning Methods | 3.0 |
| | **PUP 701** Seminar: Urban Planning Colloquium | 1.0 | **PUP 701** Seminar: Urban Planning Colloquium | 1.0 |
| | Elective coursework | 3.0 | Elective coursework | 3.0 |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Two** | **Fall (3rd Semester)** | **Credits** | **Spring (4th Semester)** | **Credits** |
| | Elective coursework | 7.0 | Elective coursework | 7.0 |
| | | | **Milestone:** Comps: Planning Theory Paper | |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Three** | **Fall (5th Semester)** | **Credits** | **Spring (6th Semester)** | **Credits** |
| | Elective coursework | 7.0 | Elective coursework | 7.0 |
| | **Milestone:** Comps: Planning Methods Paper | | **Milestone:** Dissertation Proposal/Prospectus | |
| | **Milestone:** Comps: Topical Research Paper | | | |
| | **Total** | **7.0** | **Total** | **7.0** |
| **Year Four** | **Fall (7th Semester)** | **Credits** | **Spring (8th Semester)** | **Credits** |
| | **PUP 799** Dissertation | 6.0 | **PUP 799** Dissertation | 6.0 |
| | Elective coursework (if needed) | | **Milestone:** Dissertation Defense | |
| | **Total** | **6.0** | **Total** | **6.0** |

Dissertation credits may be taken in any combination that adds up to twelve (12.0), but students are recommended to take them in the final year of the program. Student should consult with faculty advisor prior to enrolling in dissertation.

## Comprehensive Exam

### Written Exam

The written portion of the comprehensive exam consists of three papers. The papers are intended to demonstrate advanced knowledge of the planning field. The written exam is not focused on the student's dissertation topic, but is intended to test general knowledge in the student's general areas of interest. All papers shall be approved by the supervisory committee. The papers shall cover the following three topics:

#### *Planning theory*

**Goal:** The goal of this paper is to situate oneself within one of the sub-disciplines of planning and discuss in some detail two areas of specialization within this sub-discipline. To accomplish this, students should:

- demonstrate a deep understanding of the two chosen areas of the literature
- highlight key research problems in these areas
- link his or her own research interests and plans to existing work in these areas, as well as to broader planning problems

To begin, the paper should broadly situate the student's research interest within a planning sub-discipline and then proceed to spend the majority of the paper discussing the two areas of specialization selected. Towards the close of the paper the student should situate their dissertation interest within the two selected topics. This discussion should not constitute a majority of the paper.

**Due Date:** The end of the fourth semester of study or a date agreed upon by the exam committee and School Director.

**Length:** 7,500 to 10,000 words

**Sample Prompt:** In consultation with the exam committee, the student will identify key works in each of two areas of specialization within the planning literature to which their research interests pertain. For each area, the student will write a concise discussion of how these works build upon and relate to one another, and identifies key research problems – both those that have been addressed as well as outstanding questions. The paper should conclude with a brief statement of the student's own research interests and plans, and a discussion of where these fit into the works discussed. This paper should be accompanied by a list of references cited in APA citation format. It is expected that the paper be original material. It may not be composed of reconstituted papers from previous courses.

#### *Planning methods*

**Goal:** The goal of this paper is to demonstrate understanding of the research methods used in the student's areas of specialization indicated in the theory paper submitted in the fourth semester.

**Due Date:** The end of the fifth semester of study or a date agreed upon by the exam committee and School Director.

**Length:** 5,000 to 6,000 words

**Sample prompt:** In this paper, the student will discuss a research problem in his or her area of specialization, with a focus on identifying and describing at least three methods that have been or could be used to investigate this research problem. The problems and prospects of each method should be discussed, both in general and with specific reference to the research problem at hand. While this may include some discussion of data collection methods, it is expected that the main focus will be on methods of data analysis

-quantitative and/or qualitative. This paper should be accompanied by a list of references cited in APA citation format. It is expected that the paper be original material. It may not be composed of reconstituted papers from previous courses.

### *Substantive topic*

**Goal:** The purpose of this paper is to demonstrate the ability to conceive and execute a research project in the student's chosen area of planning specialization. To accomplish this, student should:

- Construct a research question
- Summarize prior work pertaining to that research question
- Choose an appropriate dataset for the research question
- Use appropriate methods to answer the question
- Present results
- Discuss conclusions and tie them to existing work in the field

**Due date:** This paper is due by the end of the fifth semester of study or a date agreed upon by the exam committee and School Director. Students who have submitted a manuscript for peer-reviewed publication as the sole or first author have satisfied this requirement, as indicated by a memo from their faculty advisor.

**Length:** 6,500 and 10,000 words

**Sample Prompt:** In this paper, the student will pose a research question, review relevant literature, collect and analyze evidence, explain how the results answer the research question, and conclude with a discussion that includes the implications of the results for planning practice, limitations of the research, and possible next steps. This work should be topically situated in the student's area of specialization. Tables and figures should be included to present results where appropriate. This paper should be accompanied by a list of references cited in APA citation format.

Reporting completion of the Written Comprehensive Exam: submit the *Comprehensive Exam Results* form to the Manager of Graduate Programs. It must be signed by all committee members.

## Oral Exam

After approval by the doctoral committee of the written comprehensive exam papers, students will have an oral exam intended to test a student's mastery of planning theory, research methods, and area of specialization. The oral exam will be based on the written portion of the exam, and students will be expected to be able to articulate and clarify the content of all three papers. The oral exam is an assessment of whether a student is ready to participate in scholarly discussions, to proceed towards candidacy, and to submit a dissertation proposal.

The oral exam should be completed by the end of the fifth semester. Students that fail to pass the oral exam will be given a second and final opportunity for an additional oral exam by the end of the 6th semester. A student that fails to pass the second oral exam will be recommended for dismissal from the PhD program.

Reporting completion of the Oral Comprehensive Exam: submit the *Comprehensive Exam Results* form to the Manager of Graduate Programs. It must be signed by all committee members.

## Dissertation Proposal/Prospectus

After passing the comprehensive exam, the student is required to submit a written dissertation proposal to the supervisory committee. As part of the dissertation proposal, the student is required to submit a publication plan indicating the strategy for completing publishable papers from the dissertation. Upon successful defense of the proposal, the student advances to candidacy for the PhD.

Students must complete all non-dissertation coursework and examination requirements and resolve all incomplete grades (other than PhD research credit hours) before the oral examination.

The dissertation proposal defense should be completed by the end of the sixth semester.

Scheduling the Proposal/Prospectus defense: Consult with supervisory committee members to select defense day and time. Visit SGSUP Room Reservations and request a room for your defense. Include set-up and break-down time in your reservation request. After you have a room confirmed, submit the *Schedule Prospectus/Proposal Defense* form. The Manager of Graduate Programs will contact the student with the next steps.

Reporting completion of the Proposal/Prospectus: Submit the *Results of the Dissertation Proposal or Prospectus* form to the Manager of Graduate Programs. It must be signed by all committee members.

## Dissertation Defense

The dissertation for a PhD in Urban Planning may take the form of a single monograph or three article-length papers. This is to be decided in consultation with the supervisory committee members.

Upon approval of the dissertation manuscript by the supervisory committee, the student will schedule an oral defense of the completed dissertation. The student should adhere to all Graduate College procedures and deadlines for scheduling the defense and submitting the completed dissertation.

Refer to How to: Thesis/Dissertation for step-by-step instructions.

## Performance and Annual Review

To ensure that students are making progress towards their degree in a timely manner, and to ensure the student's responsibilities are being met, the Associate Director, student's faculty advisor and RA/TA faculty supervisors will review students' progress annually. Students who are not making satisfactory progress or meeting their obligations may be dismissed from the program, placed on probation, or lose funding opportunities provided by the department. Reviews are conducted every spring; the Manager of Graduate Programs will send instructions and deadlines to students at the appropriate time.

Unsatisfactory reviews or failure to submit the annual review may result in the following:

- Warning
- Academic probation
- Losing partial or full department financial support, including RA/TA appointments and research support funds
- With the recommendation of the School Director a student can lose guaranteed funding or be dismissed from the graduate program.

# Geographic Information Systems (MAS)

## About

The Master of Advanced Study in Geographic Information Systems (MAS-GIS) is a compact one-year non-thesis degree program fostering advanced study in the management and use of GIS technology in public and corporate environments. The degree meets important educational needs of working professionals and recent college graduates seeking to improve their career standing.

The program provides a comprehensive professional degree that balances work in the theoretical aspects of GIS, the technical side of the discipline, and the applications domain. Students are exposed to cutting-edge technology, with a focus on building invaluable problem-solving skills, and the opportunity to work on real-world GIS projects.

## Admission

| | |
|---|---|
| **Application Deadline** | Applications are accepted on a rolling basis until start of academic year |
| **Application Materials** | Graduate Admissions online application |
| | Resume or CV |
| | Personal statement |
| | Official undergraduate transcript |
| | Two (2) letters of recommendation |
| | English Proficiency for non-native English speakers (TOEFL, IELTS, or PTE) |

Geographic Information Systems (MAS) Application Instructions

Geographic Information Systems (MAS) Admission FAQs

## Curriculum

The Geographic Information Systems (MAS) degree requires 30 credit hours including an applied project capstone.

| Course | Title | Credits |
|---|---|---|
| GIS 601 | Introduction to Geographic Information Systems | 2.0 |
| GIS 602 | Intermediate GIS | 2.0 |
| GIS 603 | Spatial Statistics and Modeling | 2.0 |
| GIS 604 | Implementation in the Corporate and Public Sectors | 2.0 |
| GIS 605 | GIS Project Planning and Implementation | 2.0 |
| GIS 606 | GIS Project Presentation | 2.0 |
| GIS 610 | Programming the GIS Environment | 3.0 |
| GIS 630 | GIS Technologies | 3.0 |
| GIS 640 | GIS and Business | 3.0 |
| GIS 650 | GIS for the Internet | 3.0 |
| GIS 684 | GIS Internship | 3.0 |
| GIS 693 | GIS Capstone | 3.0 |
| **Total Credit Hours Required for MAS-GIS** | | **30.0** |

## Sequence & Timeline

The following is the course sequence and timeline for the Geographic Information Systems (MAS) program. Students are expected to complete all requirements for the MAS degree in one year. Courses are held evenings and weekends, and the curriculum is highly adaptable to the work environment; thus the master's degree is achievable in a one-year time period.

| Fall (1st Semester) | Credits | Spring (2nd Semester) | Credits | Summer (3rd Semester) | Credits |
|---|---|---|---|---|---|
| **GIS 601** Introduction to Geographic Information Systems | 2.0 | **GIS 610** Programming the GIS Environment | 3.0 | **GIS 684** GIS Internship | 3.0 |
| **GIS 602** Intermediate GIS | 2.0 | **GIS 630** GIS Technologies | 3.0 | **GIS 693** GIS Capstone | 3.0 |
| **GIS 603** Spatial Statistics and Modeling | 2.0 | **GIS 640** GIS and Business | 3.0 | | |
| **GIS 604** Implementation in the Corporate and Public Sectors | 2.0 | **GIS 650** GIS for the Internet | 3.0 | | |
| **GIS 605** GIS Project Planning and Implementation | 2.0 | | | | |
| **GIS 606** GIS Project Presentation | 2.0 | | | | |
| **Total** | **12.0** | **Total** | **12.0** | **Total** | **6.0** |

# Certificate Programs

## Transportation Systems Certificate

Transportation has emerged as one of the highest priority issues for policymakers, planners, employers, and citizens. The Transportation Systems certificate program enhances the education of current and future transportation professionals to respond to this challenging environment. It builds upon existing programs in a variety of disciplines offered from four colleges, and two campuses, in the ASU system. The program approaches the subject from an integrated systems perspective and exposes students to a range of transportation alternatives and the interrelationships between transportation and economics, social equity, land use, technology, policy, energy, and the environment.

The certificate program offers current ASU graduate students and transportation professionals the opportunity to pursue a wide range of transportation-related issues from a multimodal, interdisciplinary perspective. Students are expected to attend transportation-related seminars and events offered by the different disciplines. Requirements to attend a certain number of these events will be built into PUP 591 and PUP 593 class requirements.

Students wishing to earn the Transportation Certificate must submit an application to Graduate Admissions. Refer to Graduate College certificate policy under ***other graduate educational opportunities***. Refer to Shared/Concurrent Credit for details regarding sharing credits between a degree program and certificate program.

The certificate is intended to be a specialization within an existing graduate degree program, but a master's degree is not required for admission.

### Certificate Requirements

| Course | Title | Credits |
|---|---|---|
| PUP 591 | Seminar: Transportation Systems Pro Seminar | 3.0 |
| Elective coursework, including 3.0 methods course credit* | | 9.0 |
| PUP 593 | Applied Project: Transportation Capstone** | 3.0 |
| **Total Credit Hours** | | **15.0** |

*Choose electives from an approved list of transportation-related courses. Must include at least one from a field outside the student's degree program and a course in methods or techniques applicable to transportation systems planning.

**The Applied Project consists of an in-depth capstone research paper or professional project. In developing a capstone paper, students are encouraged to work with transportation professionals in their area of interest to identify a topic that is of interest to the broader public.

### Course Requirements

The listed classes are required and cannot be waived or substituted. A maximum of 6.0 credits of 400-level elective coursework may be included on the plan of study but must be approved by the Transportation Systems certificate program coordinator.

### Concurrent Credit

No more than 6.0 credits may be shared between the Transportation Systems certificate plan of study and another degree or certificate plan of study.

## Pre-admission Credit

No more than 6.0 credits taken prior to admission into the Transportation Systems certificate program may be included on the plan of study.

A thesis, dissertation, or *individual* applied professional project that focuses *primarily* on transportation may substitute for a capstone paper, if approved by the Director of the certificate program. In such cases:

1. The student must still register for and pass the PUP 593 requirement by attending scheduled class meetings, submitting a copy of their completed thesis, dissertation, or individual applied professional project, and presenting it in the capstone final presentations.
2. Since no additional work is being done other than the presentation, the student and Director will agree on an additional three-credit transport-related course.

The transportation certificate capstone paper does not replace a final culminating experience for a MUEP degree (thesis, applied project, or capstone)

Use the *Transportation Systems certificate Plan of Study Worksheet* to assist in planning coursework.

Be in touch regularly with the certificate director to let them know you have applied to earn the certificate and to verify the courses you are taking meet the requirements. For more information regarding the Transportation Certificate, please contact the Director, Michael Kuby, at mikekuby@asu.edu or visit the website.

## Geographical Information Science Certificate

The Geographical Information Science (GIS) certificate program is a structured interdisciplinary program offered through the School of Geographical Sciences and Urban Planning. Students earn the certificate through GIS coursework taught at ASU. The program complements existing degree programs. Students who earn the certificate will exit the program with standardized skill sets based on learning outcomes associated with each required course. This program provides students with the training and experience necessary to compete, work, and teach in the GIS arena in both public and private sectors.

Students wishing to earn the GIS Certificate must submit an application to Graduate Admissions. Refer to Graduate College certificate policy under ***other graduate educational opportunities***. Refer to Shared/Concurrent Credit for details regarding sharing credits between a degree program and certificate program.

Eligible applicants must be currently enrolled in a graduate program at ASU or be a practicing professional with a previously earned master's degree.

### Certificate Requirements

| Course | Title | Credits |
|---|---|---|
| **Choose one:** | | 3.0 |
| GIS 501 | Fundamentals of GIScience | |
| PAF 571 | Geographic Information Systems (GIS) and Analysis | |
| PUP 576/GIS 515 | GIS Workshop for Planners | |
| **Choose two (must be from different categories):** | | 6.0 |
| **Geographical Spatial Analysis (2A)** | | |
| ABS 485 | GIS in Natural Resources | |
| GIS 471 | Geographic Information Analysis | |
| GIS 562 | Location Analysis and Modeling | |
| **Building a GIS from Data Creation to Display (2B)** | | |
| GPH 598 | Geographic Information Science II | |
| **GIS Application Design, Development, and Distribution (2C)** | | |
| GIS 521 | Geographic Information Science III | |
| GIS 561 | Optimization Fundamentals for Spatial Analysis | |
| **Remote Sensing and Analysis (2D)** | | |
| ABS 586 | Remote Sensing in Environmental Resources | |
| GPH 569 | Digital Analysis of Remotely Sensed Data | |
| Elective coursework* | | 6.0 |
| GIS/GPH 591 | Seminar: GIS Capstone** | 1.0 |
| **Total Credit Hours** | | **16.0** |

*Choose electives from an approved list of GIS-related courses

** Students will present a GIS project to the GIS Certificate Working Committee. All students will be responsible for demonstrating how GIS technology has enabled them to address a spatial problem more effectively.

## Course Requirements

A maximum of 6.0 credits of 400-level elective coursework may be included on the plan of study but must be approved by the GIS certificate program coordinator.

## Concurrent Credit

No more than 6.0 credits may be shared between the GIS certificate plan of study and another degree or certificate plan of study.

## Pre-admission Credit

No more than 6.0 credits taken prior to admission into the GIS certificate program may be included on the plan of study.

Use the *GIS certificate Plan of Study Worksheet* to assist in planning coursework.

For more information on the GIS Certificate program, please contact Shea Lemar at shea.lemar@asu.edu or visit the website.

## Social Science Research Methods Certificate

This program is designed for applicants who hold a minimum of a bachelor's degree from regional, national, or internationally accredited institutions, and in any field/discipline (e.g. anthropology, sociology, human development, sustainability, geography, political science, or other fields with approval of the academic unit).

The Social Science Research Methods certificate program prepares students and professionals to acquire, manage, and analyze a broad range of data on human thought and human behavior. Data can be qualitative (e.g. text, images, sound) or quantitative (e.g. direct observation, surveys, geospatial). Data acquisition skills may include the downloading and managing of information from online sources or the primary collection of data in surveys or in direct observation. A key feature of this program is a focus on data analysis, so students and professionals will be able to analyze and interpret any data that they collect. All students in this program will demonstrate skills in statistical analysis plus skills in selection of methods related to their interests.

Students wishing to earn the SSRM Certificate must submit an application to Graduate Admissions. Refer to the Graduate College certificate policy under ***other graduate educational opportunities***. Refer to Shared/Concurrent Credit for details regarding sharing credits between a degree program and certificate program.

Applicants must have completed an introductory course in statistics before admission to the program.

### Certificate Requirements

| Course | Title | Credits |
|---|---|---|
| **Choose one:** | | 3.0 |
| SOC 508 | Structural Equations Analysis for the Social Sciences | |
| STP 533 | Applied Multivariate Analysis | |
| POS 604 | Polimetrics II | |
| Elective coursework* | | 12.0 |
| GCU 593 | Applied Project | 3.0 |
| **Total Credit Hours** | | **18.0** |

*Choose electives from an approved list or consult with faculty advisor

### Course Requirements

The listed classes are required and cannot be waived or substituted. A maximum of 6.0 credits of 400-level elective coursework may be included on the plan of study but must be approved by the SSRM certificate program coordinator.

### Concurrent Credit

No more than 9.0 credits may be shared between the SSRM certificate plan of study and another degree or certificate plan of study.

## Pre-admission Credit

No more than 7.0 credits taken prior to admission into the SSRM certificate program may be included on the plan of study.

Use the *SSRM certificate Plan of Study Worksheet* to assist in planning coursework.

For more information on the Social Science Research Methods Certificate program, visit the website or email issrinfo@asu.edu.

# APPENDICES

## MUEP Approved Electives

Refer to the following list of pre-approved electives while planning your coursework. These courses are offered outside of SGSUP and therefore are subject to change. View the Schedule of Classes for the most current course offerings.

| Subject | Catalog Number | Course Title | Credit Hours | Usually offered | Course Description |
|---|---|---|---|---|---|
| AMT | 525 | Airport Planning and Design | 3 | Spring | Completion of various phases of airport master planning process. Provides guidance for logical and timely development of airports. Project work groups assigned. |
| CEE | 507 | Urban Infrastructure Anatomy | 3 | Spring | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. |
| CEE | 573 | Transportation Operations | 3 | Fall | Students will learn driver, vehicle, and roadway characteristics; traffic control devices; traffic engineering studies; and transportation system management measures.<br>***Prereq: Must be a CEE Graduate Student - Request Override*** |
| DSC | 598 | Activating Urban Spaces | 3 | Spring | This course will look at how public urban spaces are structured with a particular eye to the involvement of art and design, whether formally or informally, in shaping the built and social environment of the city. Throughout the course particular focus will consider the possibilities for engaging social justice outcomes through spatial intervention drawing on examples from around the world. Interventions in urban spaces enact local change by making art the language of civic engagement; in this way a mural or performance or reconceptualized public space can become a method to address issues of locally prioritized inequality. The course will approach this topic through interdisciplinary perspectives including: public policy and city officials, urbanism, community organizing, and socially engaged art and design. We will use Phoenix as our local research site but also look to global examples to analyze sites of study including parks, public art, and street festivals by looking at arts organizations, city projects, community groups, and individual artists. Students will develop projects that respond to a particular site of their choosing. |
| PAF | 502 | Public Service Research II | 3 | Fall Spring | Quantitative techniques including multivariate analysis, data analysis, decision making, and computer applications in public affairs.<br>***Prereq: PAF 501 - Check with faculty to see if this can be waived*** |
| PAF | 504 | Microeconomics of Public Policy I | 3 | Fall Spring | Provides key principles of microeconomics. Places particular emphasis on developing the analytic tools of economic reasoning and using these tools to examine policy interventions of interest to public managers. |
| PAF | 506 | Public Budgeting and Finance | 3 | Fall Spring | Students will learn the legal, social, economic, political, institutional, and ethical foundations of governmental finance, budgets, and budgeting.<br>***Prereq: PAF 504 - Check with faculty to see if this can be waived*** |

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| PAF | 521 | Managing Public Money | 3 | Spring | Overview of public financial management, including budget planning and execution; capital budgeting, debt management and administration; funds management and investment; and financial control.<br>***Prereq: Must be an MPA student - Request Override*** |
| PAF | 522 | Advanced Governmental Financial Management | 3 | Fall | Focuses on capital budgeting and infrastructure financing. Covers information required to finance a capital improvement plan, specifically for infrastructure items such as streets, parks, public utilities, airports, highways, bridges and tunnels, and other public works. Combining strategy as well as process, examines financial management from different perspectives.<br>***Prereq: Must be an MPA student - Request Override*** |
| PAF | 523 | The City and County Manager | 3 | Fall | Students will learn manager's role and resources in the differing forms of administrative, legislative, and community sectors. |
| PAF | 530 | Management of Urban Government | 3 | Spring | Students will learn administrative practices and behavior within the urban political administrative environment. Functional areas such as citizen participation, urban planning, urban transportation, and the conflicts between urban politics and administrative efficiency. |
| PAF | 531 | Community Conflict Resolution | 3 | Spring | Interdisciplinary approach to understanding the dynamics of community conflict. Strategic considerations in policy design and advocacy; potential reaction to conflict. Relevant models and research findings generated by both case studies and comparative methods. |
| PAF | 534 | Urban Services Infrastructure | 3 | Fall | Provides an overview of the network of services being provided in the urban environment by a variety of governmental and nongovernmental agencies. Discusses coordination, cooperation and overlap of services by local, special district, county, regional and state levels, alternate delivery methods including nonprofits, and the evolving relationship of these services. |
| PAF | 540 | Advanced Policy Analysis | 3 | Fall | Emphasizes the structure of policy problems, forecasting policy alternatives, optimizing resources, and reducing uncertainty in policy making.<br>***Prereq: PAF 505 - Check with faculty to see if this can be waived*** |
| PAF | 546 | Environmental Policy and Management | 3 | Fall | Analyzes environmental policy and planning issues and principles related to the analysis and management of natural and urban/regional resources. |
| PAF | 560 | Community Resilience | 3 | Spring | Examines community resilience from a systems perspective, embracing governments, private, nonprofit and civic roles. Presents research, case studies, and strategies for policy planning and implementation. Provides an understanding of how community members respond to the need to prepare for, endure and recover from disasters and the ability to utilize multiple communication methods to help community members before, during and after these emergencies. |
| PAF | 566 | Participatory Governance & Civic Engagement | 3 | Spring | Examines classic and current theoretical debates on participatory governance and civic engagement, discusses theoretical and practical implications, and analyzes different models of participatory governance. |

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| PAF | 570 | Microeconomics of Public Policy II | 3 | Spring | Provides the policy tools to solve economic problems such as market concentrations, market failures and externalities, and asymmetric information. Increasingly, government interventions are moving away from a command-and-control-style of direct provision of goods and services and toward a large menu of indirect approaches implemented through a complex system of third-party actors. Government intervention in private markets now entails loans and loan guarantees, grants-in-aid, contracts, vouchers, social and economic regulation, and many other policy tools. Each of these instruments involves vastly different behavioral distortions, policy technologies, political considerations and technical sophistication. Analyzes the economics of four policy interventions: grants, tax expenditures, social regulation and vouchers. Provides an overview of each tool (including its key design features) and combines economic theory with background information on how public policies actually operate. ***Prereq: PAF 504 - Check with faculty to see if this can be waived*** |
| PAF | 571 | Geographic Information Systems (GIS) and Analysis | 3 | Fall Spring | Provides foundational information related to application of GIS technology to meet various needs within governmental operations, administration, and public policy. ***MUEP Note: Only can be taken if there is an unavoidable conflict with PUP 576, petition must be completed*** |
| PAF | 573 | Applied Econometrics | 3 | Fall | Applied treatment of the most important modern econometric methods used to evaluate public policies. Help students become savvy consumers of econometric methodology and develops the methodological skills necessary for implementing quantitative evaluations of public policies. Accordingly, course stresses critical thinking and creativity. ***Prereq: PAF 502 - Check with faculty to see if this can be waived*** |
| PAF | 574 | Diversity, Ethics, Public Change | 3 | Fall | Focuses on leadership, ethics, and benefits and tensions of the multicultural city to develop leadership and multicultural competence. |
| PAF | 591 | Seminar: Policy Studio: Evaluation, Design, and Delivery | 3 | Fall | This course is designed to provide students with practical experience in student-led program and policy evaluation services of public programs. Students will work under the direction of Morrison Institute for Public Policy analysts and College of Public Service and Community Solutions faculty to: Learn about program evaluation and accompanying research methods; Evaluate a government or non-profit program; Work directly as professional consultants with the client organization. This course provides an opportunity for students to apply classroom learning to real-life program evaluation projects. Through this course, students will: Build their resumes by engaging in meaningful projects for public and non-profit organizations; Boost their team-building skills; Gain professional consulting experience; Enhance written and oral presentation skills; Network with Arizona public and non-profit employers. ***Due to space limitations and the rigor of the course, students will be selected to enroll in this course through a competitive application process.*** |
| PAF | 591 | Seminar: Ending Homelessness through Public Policy | 3 | Fall | The aim of this course is to examine the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. This course will examine how public policy decisions have shaped the issue in our community; and explore the impact of federal, state, and local policy formulation on our population of person's experiencing homelessness. We will investigate multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long held assumptions about homelessness. Students will be empowered to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. |

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| SOS | 514 | Human Dimensions of Sustainability | 3 | Spring | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. |
| SOS | 532 | Sustainable Urban Dynamics | 3 | Fall | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. |
| SOS | 540 | Statistical Modeling for Sustainability | 4 | Spring | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. |
| SOS | 577 | Interdisciplinary Writing Seminar | 2 | Spring | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively, and ethically to people in your discipline, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. |
| SOS | 594 | Conference and Workshop: Urban Sustainable Redevelopment | 3 | Fall | In this online workshop, students will collaborate with practitioners and other stakeholders to redesign a declining historic block with infill opportunity in the city of Peoria, AZ. Using proactive methods to integrate sustainability and urbanism, students will apply key concepts of new urbanism and sustainable urban design. The project will include creating concepts and design ideas for the block area redevelopment. Students will be asked to create a valuable deliverable for the city. The class will begin with a review of key basic concepts of new urbanism and sustainable urban redevelopment. The class will consider how sustainable practices can be integrated into the design of the space, the architecture, and the opportunities for developing public private partnerships. They will also consider the role of businesses, the use of public art and historic architecture to create a thriving space in an older declining area of downtown. Policy considerations will have an impact on final design elements. |
| SOS | 594 | Conference and Workshop: Global Sustainability Research | 3 | Fall | This workshop course offers students an interactive, engaging way to get hands-on experience in solutions-oriented sustainability research while developing professional skills and opportunities. Students will learn solutions-oriented research methods while working on one or other of two real-world research projects Transformational Water Solutions or Urban Food Systems Solutions"). Students will identify, analyze, and evaluate a variety of potential solutions (projects, programs, policies) to these challenges and develop and communicate transformational strategies. The course includes interacting with guest experts (local and international), engaging with local stakeholders, performing local field research, and delivering final work products to an external client panel. |

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| SOS | 594 | Conference and Workshop: Sustainable Neighborhoods for Happiness | 3 | Fall | Neighborhoods, both domestic and international, serve as drivers of a sustainable and happy future. In this workshop, we will focus our efforts on continuing the revitalization of a local neighborhood through research, design and implementation that simultaneously improves sustainability and residential happiness. The class involves collaboration with other students, community residents and stakeholders to move toward sustainability. Nine student led groups will each focus on one of the following areas: waste management, energy management, water management, business and economic development, community governance, food management, transportation, buildings and neighborhood environment. |
| SOS | 594 | Conference and Workshop: Urban Sustainability. Best Practices/Applications | 3 | Fall | There is a dearth of documented sustainability best practices in urban systems in the sectors of sustainable energy, water, waste management, urban forestry, food systems, transportation and health in arid and semi-arid environment. Practitioners and policy makers seek best practices and case studies to draw information from and for comparative purposes for improved decision making. In this workshop, students will collaborate with stakeholders from cities and municipalities, and shadow selected officials to design, explore, verify and disseminate activities that are being currently implemented and have not been documented. Using standardized practices this highly collaborative work will form the basis of the cities¿ real time case studies and best practices in any chosen sector. The final vetted products will be posted on designated websites at ASU for wider dissemination. |
| SOS | 594 | Conference and Workshop: Designing a Living Building | 3 | Fall | This workshop course will utilize the LBC as a framework for researching and creating a conceptual design for a future ASU building that treats 90% of the wastewater from campus naturally through plants for re-use in the campus cooling towers. The goal is to infuse as many concepts as possible to exude ASU, sustainability, research, education and engagement goals. Course is intended for an inter-disciplinary cohort of students from Sustainability, Engineering (including Construction Management), Design (including energy modeling, architecture, interior and landscape design), Urban Planning, and Behavioral Science in order to address LBC integrated needs. |
| SOS | 594 | Conference and Workshop: Sustainable Development Action | 3 | Spring | This workshop course is designed to build the bridge between academic and practice-oriented skills needed to address sustainability challenges in developing countries in Asia and Africa. It takes a problem driven, culturally sensitive, and solution oriented approach to these challenges. Teams of graduate and senior undergraduate students will get the opportunity to work in collaboration with international partners on project design, monitoring, and assessment. |
| SOS | 598 | Special Topics: Approaches to Development | 3 | Spring | This course will provide students with a basic grounding in key concepts of market-based approaches and rights-based approaches as the next strategies for advancing sustainability and tackling issues of poverty and climate change. It will explore the role the private sector, government, international institutions, civil society and the primary change agents, revealing the complex relationships between these actors and the enabling environment for these relationships to become beneficial for the change agents and financially attractive for the private sector actors. |

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| SOS | 598 | Special Topics: Green Building Practices | 3 | Spring | This course will critically review several of the Green Building Practices that are currently in operation in the U.S. To date these practices have been primarily voluntary, however recently several regulatory standards have been developed. On the voluntary side we have; U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) System, The Green Building Initiative's (GBI) Green Globes, International Living Future Institute's Living Building Challenge and the EPA's Energy Star. On the regulatory side we have the ASHRAE 189.1 Standard, International Green Construction Code (IGCC), California's CalGreen Code as well as several Federal Executive Orders. Students will come away from this course with a very good understanding of these practices and how they could apply them to practice. |
| SOS | 598 | Special Topics: Cultivating Inner Sustainability | 3 | Spring | Cultivating Inner Sustainability: Sustainability scientists, scholars and practitioners spend a significant amount of time assessing exogenous processes and developing solutions. Yet, at the center of most sustainability challenges rest human beings filled with thoughts, values, and behaviors. Individually, the impact of our inner workings may feel small; yet, collectively, our mindsets have major impact. In this class, we will undertake a collaborative effort to explore, practice and develop skills to promote inner sustainability. Examples may include integrity, sympathy, empathy, compassion, authenticity, unconditional love, open-mindedness, awareness, patience, purpose, happiness, leadership and more. |

## MUEP Approved Methods Courses

Students with an approved waiver for PUP 576 must take an alternate methods course. Refer to the following list of pre-approved methods courses while planning your coursework. Some courses are offered outside of SGSUP and therefore are subject to change. View the Schedule of Classes for the most current course offerings.

| Subject | Catalog Nbr | Course Title | Credit Hours | Usually offered | Course Description |
|---|---|---|---|---|---|
| AML | 612 | Applied Mathematics for the Life and Social Sciences Modeling Seminar | 3 | Spring | Presents and applies mathematical modeling principles and techniques for representing the structure and operation of complex life and social systems and processes. Helps students identify potential problems in the life and social sciences and the corresponding mathematical and statistical methods that can be used for their study. |
| AML | 591 | Special Topic: Modeling with Game Theory | 3 | Spring | In this course, we will learn how to use game theory to model and analyze systems that are managed by several strategic agents. These agents may be people or groups of people with a certain objective that may differ from the objectives of the other agents. We will demonstrate our tools on a variety of problems, from everyday life to challenges in environmental management. |
| ASM | 570 | Fundamentals of CAS Science | 3 | Fall | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences |
| ASM | 591 | Special Topic: Dynamic Modeling of Social & Ecological Systems | 3 | Fall | Cross listed with SOS 591 |
| COM | 508 | Quantitative Research Methods in Communication | 3 | Fall | Empirical research designs, measurements, and statistical strategies and techniques in analyzing and evaluating experimental and descriptive research in communication. **Prereq: Com grad student. Request override online: https://humancommunication.clas.asu.edu/undergraduate/overrides** |
| COM | 608 | Multivariate Statistical Analysis of Data in Communication | 3 | Fall | Statistical analysis of communication research data. Multivariate procedures used in communication research and methods of causal analysis. **Prereq: Com PhD. Check with Faculty if override is allowed (Dr. Shin)** |
| CRD | 502 | Statistical and Data Analysis | 3 | Fall | Introduces descriptive and inferential methods used in community development, with an emphasis on nonprofit, tourism, and recreation sciences. Students gain experience using statistical software. |
| CRD | 620 | Community Research Methods | 3 | Fall | Introduces community research methods, with emphasis on methodological questions and techniques relevant to contemporary community-based research. |

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| DSC | 598 | Special Topic: Creative Measurement and Neighborhood Change | 3 | Fall | Creative Measurement and Neighborhood Change This graduate seminar and workshop will investigate existing and promising methods for assessing and documenting social, economic, physical and cultural change in moderate and low-income neighborhoods. Working with local community organizations in the Phoenix region on actual measurement challenges, the class will focus on (a) interrogating current practices among policymakers, planners and community leaders for use of information that informs policy and program choices; (b) assessing appetite for more nuanced and innovative information about community change; (c) exploration of how to push the envelope with existing evaluation and research practices and (d) exploration of highly innovative and unconventional research and evaluation practices drawing from multiple academic disciplines and fields of practice that better capture diverse facets of neighborhood change. |
| ECN | 525 | Applied Regression Models | 3 | Fall | Simple linear regression, multiple regression, indicator variables, and logistic regression. Emphasizes business and economic applications. |
| ECN | 527 | Applied Regression Models | 3 | Fall | Discrete data analysis in business research. Multidimensional contingency tables and other discrete models. **Prereq: ECN 525** |
| GCU | 542 | Geographical Analysis of Transportation | 3 | Fall | Examines the geographical aspects of transportation systems. Looks at the geography of networks; transport costs and rates; different modes of transport, trade, economic development, and technology. Studies the movement of freight and passengers at the individual, urban, national, and international scales. |
| GIS | 562 | Location Analysis Modeling | 3 | Spring | Provides a technical overview of location theory in the context of GIScience, focusing on analysis and modeling issues. Relies upon applications associated with emergency service planning, natural resource management, retail site selection, among others to make connections among models, spatial information and interpretation of findings. Explores utilization and implementation considerations using GIS. Objectives include: (1) exposure to a range of location analysis and modeling approaches; (2) ability to apply approaches in combination with GIS and optimization software; and (3) capability of carrying out an application-oriented study relying on acquired skills. |
| GIS | 521 | Geographic Information Science III | 3 | Spring | In-depth look at programming within GIS. Focuses on programming and methodology, utilizing specific software, and basic scientific computing. |
| PAF | 502 | Public Service Research II | 3 | Fall and Spring | Quantitative techniques including multivariate analysis, data analysis, decision making, and computer applications in public affairs **Prereq: PAF 501. Check with faculty to see if this can be waived** |
| PAF | 573 | Applied Econometrics | 3 | Fall | Applied treatment of the most important modern econometric methods used to evaluate public policies. Help students become savvy consumers of econometric methodology and develops the methodological skills necessary for implementing quantitative evaluations of public policies. Accordingly, course stresses critical thinking and creativity. **Prereq: PAF 502. Check with faculty to see if this can be waived** |
| PAF | 541 | Program Evaluation | 3 | Fall | The course involves students in consulting teams, conducting evaluation research for actual nonprofit and government agency clients. The combination of real-world experience with course readings, lectures and discussions aims to educate course participants in both the theoretical and practical realms of program evaluation. **Prereq: PAF 501. Check with faculty about override** |

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| POS | 401 | Political Statistics | 3 | Fall | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. **Prereq: POS 301. Request override from faculty** |
| PSY | 533 | Structural Equation Modeling | 3 | Spring | Path analysis; exploratory and confirmatory factor analysis; recursive and nonrecursive latent variable models; mean and covariance structures; latent growth models. |
| PUP | 581 | Optimization Fundamentals for Spatial Analysis | 3 | Spring | Covers the fundamentals of optimization for spatial analysis. Reviews elements of calculus, matrices and basic linear algebra. Introduces linear programming, integer programming and branch and bound, and heuristics. Provides the basics for use and application of GIScience and spatial analysis methods. Objectives include: (1) review basics of math, calculus and linear algebra; (2) introduce optimization approaches, including linear programing, integer programming and heuristics; and (3) apply these methods to structured problems. |
| SOS | 540 | Statistical Modeling for Sustainability | 4 | Spring | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. |
| TWC | 514 | Visualizing Data and Information | 3 | Fall | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. **TWC 414 (also iCourse) has more spots available. Both are Session A or B only.** |

# MUEP Internship

The MUEP Internship Program provides students the opportunity to go into the professional community and develop their working skills. An internship also gives insights about the professional planning world and its demands, and about a particular community or focus area. While this is a practical experience, we also encourage students to reflect on what they have learned.

For students interested in obtaining an internship:

- Explore Internships and Employment Opportunities on the school website
- Watch for job and internship announcements in "On the Map", sent weekly on Fridays via email
- Contact Barbara Trapido-Lurie, school internship coordinator
- Attend the Planning Career Fair, held each year in late March or early April
- Make an appointment with Eileen Baden, MUEP Program Coordinator

**Earning credit**

In order to earn credit for an internship, MUEP students must enroll in PUP 584 Internship, a variable credit course that counts as an elective. Up to six (6.0) elective credits may be earned via internship.

| PUP 584 Internship credits earned | Hours worked per week (approx) | Total semester hours worked |
|---|---|---|
| 3.0 | 9 | 135 |
| 6.0 | 18 | 270 |

**Additional requirements**

Students must complete a *Letter of Intent and Work Plan* prior to the internship or at the latest within the first two weeks of the internship. The completed Letter and Work Plan should be submitted to the internship coordinator.

The intern will keep a weekly Work Log indicating the type of tasks he/she is performing, and the hours worked. On completion of the internship, the intern's supervisor will sign the Work Log to confirm its accuracy. The supervisor will also complete an evaluation form to give feedback on the quality of the intern's work.

By the end of the semester in which the student is registered for PUP 584, he/she will write a short paper that reflects on the internship experience.

It is the intern's responsibility to represent the School of Geographical Sciences and Urban Planning positively through conscientious and professional behavior, attitude and appearance.

For more information, contact Barbara Trapido-Lurie, or visit the internship website.

# Transportation Systems Certificate Approved Electives

Refer to the following list of pre-approved electives while planning your coursework. Some courses are offered outside of SGSUP and therefore are subject to change. View the Schedule of Classes for the most current course offerings.

| Course Number | Course Title | Credit Hours | Fulfills Methods Req |
|---|---|---|---|
| AMT 408 | National Aviation Policy | 3 | |
| AMT 410 | Aviation Safety and Human Factor | 3 | |
| AMT 444 | Airport Management and Planning | 3 | |
| AMT 489 | Airline Administration | 3 | |
| AMT 522 | Aviation Law/Regulations | 3 | |
| AMT 523 | Intermodal Transportation Management | 3 | |
| AMT 524 | Airport Management and Operations | 3 | |
| AMT 525 | Airport Planning and Design | 3 | |
| AMT 527 | Airline Management Strategies | 3 | |
| AMT 528 | International Aviation | 3 | |
| CEE 412/511 | Pavement Analysis and Design | 3 | |
| CEE 474/598 | Transportation Systems Planning | 3 | Yes |
| CEE 475/576 | Highway Geometric Design | 3 | Yes |
| CEE 494/598 | Airport Pavement Design | 3 | |
| CEE 507 | Urban Infrastructure Anatomy & Sustainable Development | 3 | Yes |
| CEE 573 | Transportation Operations | 3 | Yes |
| CEE 574 | Highway Capacity | 3 | |
| CEE 598 | Travel Behavior Analysis | 3 | Yes |
| CEE 598 | Transportation Safety Analysis | 3 | Yes |
| CEE 598 | Sustainable Civil & Environmental Systems Engineering | 3 | Yes |
| CEE 598 | Transportation Survey Methods & Data Analysis | 3 | Yes |
| GCU 542 | Geographical Analysis of Transportation | 3 | Yes |
| GIS 462/GIS 598 | Location Analysis and Modeling | 3 | |
| GIS 471 | Geographic Information Analysis | 3 | |
| GIS 501 | Fundamentals of Geographic Information Science | 3 | Yes |
| GIS 521 | Geographic Information Science III | 3 | Yes |
| GIS 561 | Optimization Fundamentals of Spatial Analysis | 3 | Yes |
| IEE 521 | Urban Operations Research | 3 | Yes |

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|---|---|---|---|
| IEE 534 | Supply Chain Modeling and Analysis | 3 | Yes |
| IEE 535 | Intro International Logistics Systems | 3 | |
| IEE 598 | Network Flows | 3 | Yes |
| IEE 620 | Optimization I | 3 | Yes |
| PAF 505 | Public Policy Analysis | 3 | |
| PAF 506 | Public Budget & Finance | 3 | |
| PAF 570 | Urban Economics and Public Finance | 3 | |
| PAF 591 | Economic Development | 3 | |
| PAF 591 | Advanced Government Financial Management | 3 | |
| PUP 410 | Public Participation in Planning | 3 | |
| PUP 434 | Economic Development Planning | 3 | |
| PUP 544 | Urban Land Use Planning | 3 | |
| PUP 550 | Transportation Planning Environment | 3 | |
| PUP 551 | Sustainable Transportation Planning | 3 | |
| PUP 553 | Urban Infrastructure Anatomy & Sustainable Development | 3 | |
| PUP 576 | GIS Workshop | 3 | Yes |
| PUP 579 | Qualitative Research | 2 | Yes (2 credits; 3 methods credits required) |
| PUP 581 | Optimization Fundamentals for Spatial Analysis | 3 | Yes |
| PUP 582 | Location Analysis and Modeling | 3 | Yes |
| PUP 598 | Transportation System Planning | 3 | |
| PUP 598 | Public Participation Planning | 3 | |
| PUP 598 | Grant writing | 1 | |
| PUP 598 (578) | Spatial Analysis | 2 | Yes (2 credits; 3 methods credits required) |
| PUP 622 | Planning methods and analysis | 3 | Yes |
| SCM 541 | Logistics in the Supply Chain | 3 | |

# GIS Certificate Approved Electives

Refer to the following list of pre-approved electives while planning your coursework. Some courses are offered outside of SGSUP and therefore are subject to change. View the Schedule of Classes for the most current course offerings.

| Course Number | Course Title | Credit Hours |
|---|---|---|
| ABS 560 | Ecological Modeling | 3 |
| CSE 412 | Database Management | 3 |
| GCU 542 | Geographical Analysis of Transportation | 3 |
| GIS 584 | Internship | 1-4 |
| GIS 441 | Geographics: Interactive and Animated Cartography and Geovisualization | 3 |
| GPH 596 | Advanced Spatial Statistics | 3 |
| GPH 598 | Advanced Digital Analysis of Remotely Sensed Data | 3 |
| GPH 598 | Satellite Gravimetry & Applications | 3 |
| GPH 598 | Biotic Distributions - Species Distribution Modeling | 3 |
| GPH 598 | Geocomputation | 3 |
| GPH 598 | Local Statistical Modeling | 1-4 |
| GLG 410 | Computers in Geology | 3 |

# SSRM Certificate Approved Electives

Refer to the following list of pre-approved electives while planning your coursework. Some courses are offered outside of SGSUP and therefore are subject to change. View the Schedule of Classes for the most current course offerings.

| Course Number | Course Title | Credit Hours |
|---|---|---|
| AML 540 | Statistical Modeling for Sustainability | 3 |
| AML 541 | Mathematical Concepts and Tools in Sustainability | 3 |
| AML 591 | Modeling with Game Theory | 3 |
| AML 610 | Topics in Applied Mathematics for the Life and Social Sciences | 3 |
| AML 612 | Applied Mathematics for the Life and Social Sciences  Modeling Seminar | 3 |
| ASB 568 | Intrasite Research Strategies | 3 |
| ASM 424/591 | Dynamic  Modeling in Social and Ecological Systems | 3 |
| ASM 465 | Quantification and Analysis for Anthropologists | 3 |
| ASM 520 | Agent-Based Modeling | 3 |
| ASM 568 | GIS and Spatial Technologies in Anthropological Research | 3 |
| CDE 591 | Advanced Bayesian Analysis | 3 |
| CDE 591 | Bayesian Analysis | 3 |
| CDE 591 | Exploratory and Confirmatory Factor Analysis | 3 |
| CDE 591 | Structural Equation Modeling with Longitudinal Data | 3 |
| CDE 598 | ANOVA for Behavioral Scientists | 3 |
| CDE 598 | Latent Growth and Mixture Models with Longitudinal Data | 3 |
| COM 608 | Multivariate Statistical Analysis of Data in Communication | 3 |
| COM 609 | Advanced Qualitative Research Methods in Communication | 3 |
| COM 692 | Advanced Qualitative Data Analysis | 3 |
| CRD 502 | Statistical and Data Analysis | 3 |
| CRD 620 | Community Research Methods | 3 |
| CRJ 503 | Research Methods | 3 |
| CRJ 504 | Statistical Tools for Criminology and Criminal Justice | 3 |
| CRJ 511 | Applied Data Analysis in Criminal Justice | 3 |
| CRJ 534 | Program Evaluation in Criminal Justice | 3 |
| CRJ 603 | Advanced Research Design | 3 |
| CRJ 604 | Advanced Statistical Analysis | 3 |
| CRJ 605 | Topics in Quantitative Methods | 3 |
| CRJ 613 | Qualitative Methods | 3 |

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|---|---|---|
| ECN 525 | Applied Regression Models | 3 |
| ECN 527 | Categorical Data Analysis | 3 |
| EDP 502 | Introduction to Data Analysis | 3 |
| EDP 503 | Introduction to Qualitative Research | 3 |
| EDP 552 | Multiple Regression and Correlation Methods | 3 |
| EDP 554 | Analysis-of-Variance Methods | 3 |
| EDP 651 | Methods and Practices of Qualitative Research | 3 |
| EDP 652 | Multivariate Procedures for Data Analysis | 3 |
| EDP 654 | Structural Equation Modeling in Educational Research | 3 |
| EDP 691 | Advanced Topics in Item Response Theory | 3 |
| EDP 691 | Intro to Item Response Theory | 3 |
| EXW 643 | Correlation/Regression Multivariate | 3 |
| EXW 645 | Advanced Applied Methods and Data Analysis | 3 |
| EXW 701 | Advanced Research Methods II | 3 |
| FAS 505 | Applied Regression Analysis | 3 |
| FAS 507 | Categorical Data Analysis | 3 |
| FAS 508 | Structural Equation Analysis for the Social Sciences | 3 |
| FAS 509 | Event History Analysis | 3 |
| FAS 512 | Secondary Data Analysis | 3 |
| FAS 598 | Advanced Regression Techniques | 3 |
| GCU 542 | Geographical Analysis of Transportation | 3 |
| GCU 585 | Geographic Research Design and Proposal Writing | 3 |
| GIS 501 | GeoDesign in Practice | 3 |
| GIS 521 | Geographic Information Science III | 3 |
| GIS 561 | Optimization Fundamentals for Spatial Analysis | 3 |
| GIS 562 | Location Analysis and Modeling | 3 |
| NLM 530 | Program Evaluation and Information Management | 3 |
| NLM 565 | Grant Writing for Nonprofit Organizations | 3 |
| NUR 608 | Qualitative Research Design and Methods | 3 |
| NUR 609 | Quantitative Research Design and Methods | 3 |
| NUR 612 | Advanced Analysis of Variance: Design and Analysis of Experiment | 3 |
| NUR 615 | Qualitative Data Management Seminar | 3 |
| NUR 616 | Community-Based Participatory Research | 3 |
| NUR 617 | Foundational Concepts in Science and Statistics | 3 |
| PAF 501 | Public Service Research I | 3 |

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|---|---|---|
| PAF 502 | Public Service Research II | 3 |
| PAF 541 | Program Evaluation | 3 |
| PAF 573 | Applied Econometrics | 3 |
| PAF 591 | Policy Studio: Evaluation, Design, and Development | 3 |
| POS 601 | Advanced Experimental Research | 3 |
| POS 603 | Polimetrics I | 3 |
| POS 604 | Polimetrics II | 3 |
| POS 605 | Polimetrics III | 3 |
| POS 606 | Qualitative and Textual Analysis | 3 |
| PSY 532 | Analysis of Multivariate Data | 3 |
| PSY 533 | Structural Equation Modeling | 3 |
| PSY 534 | Psychometric Methods | 3 |
| PSY 536 | Statistical Methods in Prevention Research | 3 |
| PSY 537 | Longitudinal Growth Modeling | 3 |
| PSY 538 | Advanced Structural Equation Modeling | 3 |
| PSY 539 | Multilevel Models for Psychological Research | 3 |
| PSY 540 | Missing Data Analysis | 3 |
| PSY 554 | Item Response Theory | 3 |
| PSY 555 | Experimental and Quasi-Experimental Designs for Research | 3 |
| PSY 561 | Methods in Applied Psychology | 3 |
| PSY 562 | Advanced Human Factors | 3 |
| PSY 576 | Dynamical Systems in Psychology | 3 |
| PUP 571 | Planning Methods | 3 |
| PUP 579 | Qualitative Research | 3 |
| PUP 582 | Location Analysis and Modeling | 3 |
| PUP 642 | Urban and Regional Economic Analysis | 3 |
| SMC 541 | Foundations of Simulation & Modeling | 3 |
| SOC 505 | Applied Regression Analysis | 3 |
| SOC 507 | Categorical Data Analysis | 3 |
| SOC 508 | Structural Equation Analysis for the Social Sciences | 3 |
| SOC 509 | Event History Analysis | 3 |
| SOC 512 | Secondary Data Analysis | 3 |
| SOC 533 | Demographic Methods | 3 |
| SOC 598 | Advanced Regression Techniques | 3 |
| SOS 540 | Statistical Modeling | 3 |

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|---|---|---|
| SOS 541 | Mathematical Concepts and Tools in Sustainability | 3 |
| SOS 542 | Sustainability Indicators | 3 |
| SOS 591 | Topics in Ecological Modeling | 3 |
| STP 530 | Applied Regression Analysis | 3 |
| STP 531 | Applied Analysis of Variance | 3 |
| STP 532 | Applied Nonparametric Statistics | 3 |
| STP 533 | Applied Multivariate Analysis | 3 |
| STP 535 | Applied Sampling Methodology | 3 |
| STP 598 | Causal Inference | 3 |
| STP 598 | Bayesian Statistics | 3 |
| SWG 519 | Research Methods in Social Work | 3 |
| SWG 718 | Qualitative Research Methods | 3 |
| SWG 719 | Quantitative Research Methods | 3 |
| SWG 721 | Statistics | 3 |
| TWC 414/494/514/598 | Visualizing Data Information | 3 |
| WST 598 | Qualitative Methods: Interviewing | 3 |

## NEURUS Study Abroad Program

SGSUP students have the opportunity to study a regional, planning, or urban studies issue of interest in Europe through the Network for European and United States Regional and Urban Studies (NEURUS) program, which promotes scholarly exchange among students and faculty from around the globe. ASU participants travel to Europe in the fall, where they conduct original research, study the host country's language, and participate in a workshop on research design and methods with the European students. Potential host universities include the University of Groningen in the Netherlands, Humboldt University Berlin in Germany, and Vienna University of Economics and Business Administration in Austria.

European students then travel to the U.S. in the spring to conduct research and take part in a workshop on the interpretation and application of comparative research with the U.S. students. At the conclusion of the program, participants typically have completed their thesis or applied project and built a network of international planning contacts.

Interested students should contact Sara Meerow in the fall of the year prior to when they'd like to participate to discuss potential projects, sites, and logistics. Research proposal development and host university pairing typically occur in the late spring, with travel commencing the following fall. Funding to defer travel costs is available through SGSUP and ASU. ASU tuition and fees cover those at the host university. The NEURUS program is conducted in English; no knowledge of the host country's language is required. More information on the NEURUS program is provided on the program webpage.

# International Student Resources

## Admission

Graduate Admissions provides resources for international students, including:

- Immigration Steps (includes immigration document and task checklist, with deadlines)
- English Proficiency requirements

## Financial Guarantee

International students must submit valid financial guarantee to ASU. You will receive a notification in your ***Priority Tasks*** module in MyASU when this is required. A registration hold will be placed on your account until the documents are received. Newly admitted students should submit financial guarantee documents to Admissions at fg@asu.edu.

## International Students and Scholars Center

Support for admitted international students is largely provided by the International Students and Scholars Center (ISSC). Visit ISSC for assistance with:

- maintaining legal status in the United States
- SEVIS Registration
- changing or extending I-20/DS-2019
- passport and travel
- enrollment concerns related to
    - maintaining enrollment
    - reducing course load
    - taking a leave of absence
- on-campus employment
- Optional Practical Training (OPT)
    - OPT is an employment authorization benefit for F-1 students to gain practical experience in their field of study by working off-campus for a total of twelve months.
    - The 12-month OPT can be obtained while school is in session, after completion of a degree program, and during the summer.
    - Students who receive a bachelor's, master's, or doctoral degree in an approved STEM field are eligible for an additional 24 months of OPT. The MAS-GIS program is a STEM-designated degree.

- Curricular Practical Training (CPT)
    - CPT is an off-campus employment authorization for F-1 students who must complete an internship course in order to graduate from their current degree program
    - Employment starts at the beginning of the semester or summer session and completes at end of the semester or summer session.
    - The use of CPT does not impact eligibility for Optional Practical Training (OPT) unless you use more than 12 months of full-time CPT. When you use 12 month of full-time CPT, you will not be eligible for OPT.

Advising is available by appointment or walk-in. Various documents and forms are available at the ISSC Document Request webpage.

## International Teaching & Research Assistants

International students on F-1 or J-1 visas may hold teaching or research assistantships. H-1B visa holders are not eligible for TA/RA appointments. Please refer to ASU Human Resources for more information.

The International Teaching Assistant (ITA) Program provides resources for international students related to teacher training, testing, and language support.

**English language proficiency**

- Non-native English speakers may be eligible for a teaching assistant appointment if they can demonstrate spoken English proficiency as outlined by ITA
- Four options for demonstrating English proficiency:
    1. Pass SPEAK test with score of 55 or higher
    2. Pass iBT (internet-based TOEFL) with score of 26 or higher on oral portion
    3. Pass IELTS with score of 8 or higher on speaking portion
    4. Complete ITA Teacher Training Course with score of 'certified'.

Visit the ITA website for more details and how to enroll in SPEAK or ITA Teacher Training Course.

## Student and Cultural Engagement

International Student Engagement provides students with many opportunities to get involved through a variety of co-curricular programs and activities. Resources available include:

- International Student Guide (information on visa, housing, finances, recreation, and more)
- Coalition of International Students promotes communication among all international student organizations in order to coordinate and consolidate activities of international students while promoting understanding among the various cultures within the university and community at large.

# How to: iPOS

## Initial Plan of Study Submission

Students will be notified by Graduate College via the ***My Programs*** module in MyASU when the iPOS must be completed

- Required by the time you have enrolled in 50% of minimum credit hours required by program
- Accelerated (4+1 and IADP) MUEP students are required to submit the iPOS by the end of their first graduate semester. The Manager of Graduate Programs will notify affected students and provide support as needed.
- You will not be able to register for classes if iPOS is not complete by deadline (set by Graduate College)
- Use each program's respective *Plan of Study Worksheet* to plan coursework and enter classes into iPOS
- Thesis and Dissertation credits may be taken during multiple semesters but must add up to exactly 6.0 hours (thesis) or 12.0 hours (dissertation)
- A maximum of 6.0 credits of 400-level coursework may be included on the iPOS for Geography PhD, Geography MA, and MUEP students. Courses at the 400-level must be taken as standard grading (i.e., no pass/fail permitted).
- Steps:
    1. Submit iPOS via MyASU (Refer to Graduate College guide on how to submit Plan of Study or *Managing Your Plan of Study* PowerPoint in SGSUP Graduate Student HUB for instructions)
    2. Manager of Graduate Programs approves iPOS; iPOS automatically forwards to Graduate College for final approval
    3. If iPOS is returned for revision, Manager of Graduate Programs will email your ASU email account with instructions
    4. If you need to make revisions to your iPOS while approval for an earlier submission is still pending, email the Manager of Graduate Programs to ask for the iPOS to be returned for revision

## Pre-Admission Credit

- Pre-admission credits are credit hours that are completed prior to the semester and year of admission to an ASU graduate degree or certificate program
- Up to 12.0 credit hours of pre-admission graduate coursework can be counted towards a degree program plan of study

- Pre-admission credits for certificate programs vary based on the total credits required for the certificate. Refer to the Graduate College certificate policy under ***other graduate educational opportunities.***
- Pre-admission undergraduate coursework (400-level or lower) may not be included on the iPOS.
- Courses cannot have counted towards a previously earned degree
- Required core courses must be taken at ASU. They may be taken pre-admission but must be earned at ASU.
- Courses must:
    - have a grade of B or better
    - have been completed at a regionally accredited US institution or international institution officially recognized by that country
    - have been taken within 3 years of admission to the ASU graduate degree
- Exceptions apply to students in the accelerated MUEP programs. Refer to the *Plan of Study Worksheet* for IADP/4+1 students

## Blanket 30 Policy (PhD students only)

- Students can apply a flat thirty (30) credit hours from a previously awarded master's degree toward their doctoral Plan of Study (this is different from pre-admission credit)
    - Final, official master's transcript showing degree conferral must be on file in order to include on iPOS
    - Admissions must have posted the master's degree
- When submitting the iPOS, select ***Prev Degree*** option and follow the prompts
    - Students do not select individual classes to add to the iPOS. The previously earned credit will appear on the iPOS as "Doctoral 30"
- Credit must:
    - have been completed at a regionally accredited US institution or international institution officially recognized by that country
    - have been taken within 3 years of admission to the ASU graduate degree

## Shared/Concurrent Credit

- A limited number of credits may be shared between degree programs and certificate programs
    - If a certificate program is started after the degree program is already in progress, no more than six (6.0) credits may be shared concurrently on both programs' iPOS
    - If a certificate program and a degree program are started at the same time, nine (9.0) credits may be shared concurrently on both programs' iPOS
- Refer to the Graduate College certificate policy under ***other graduate educational opportunities***

- MUEP concurrent degrees are designed for specific courses to be shared between the programs' plans of study. Refer to the *Plan of Study Worksheet*.

## Course Changes

- Submit changes to iPOS
- If changes are significant, Manager of Graduate Programs may request approval of faculty advisor
- Manager of Graduate Programs reviews and approves changes

## Petitions

Submit a petition if you are requesting any sort of waiver or exemption of Graduate College policy. Some petitions will be triggered automatically when you submit your iPOS, if you include coursework that does not comply with policy.

These are the most commonly-used petitions:

Leave of Absence

- All students must maintain continuous enrollment during all Fall and Spring semesters (registered for a minimum of 1.0 credit) while in the program
- Submit if you need one semester of non-enrollment; no more than two Leaves of Absence are permitted
- The Leave of Absence petition must be submitted prior to the start of the semester of non-enrollment. Petitions submitted after the start of the semester will not be approved.
- If you don't submit the Leave of Absence and then you fail to enroll, you will be discontinued from the program in accordance with Graduate College policy

Request to Change Degree Requirements

- Submit if you are a MUEP student changing your culminating experience (thesis, applied project, planning workshop)

Retake Written Examination

- Submit if you are a PhD student who needs to retake the comprehensive exam. Only one retake is permitted.

Waive non-degree/transfer limit

- Submit if you are requesting to add more than 12.0 pre-admission credits to your iPOS
- If you are a PhD student applying 30 credits from a master's degree program to your iPOS, do not submit this petition; refer to Blanket 30 Policy above

Waive 3-year prior to admit

- Submit if you are requesting to add pre-admission credit that was not taken within three years prior to admission

# How to: Advisor & Committee

In nearly all instances, students will have a faculty advisor/mentor established at the time of admission. However, this can change during the time of the student's graduate career.

Students work with their faculty advisor to map out their entire degree progression (Plan of Study). Students are encouraged to consult with their advisor prior to registering for classes each semester to ensure classes will contribute to academic and career goals.

Students will also consult their faculty advisor to form a supervisory committee made up of members who can contribute to the student's research. Students who are completing an applied project, thesis, or dissertation as part of their degree program must select a supervisory committee.

## Supervisory Committee Guidelines

- Committees must have a minimum of three members, including the faculty advisor, who usually serves as chair of the committee
- At least 50% of the committee members must be SGSUP faculty. This may require adding a fourth committee member.
- All committee members must hold a PhD
- Faculty members outside SGSUP may serve as co-chair but not chair, unless otherwise endorsed by Graduate Faculty
- Committee members should be selected by the end of the second semester (MA and MUEP thesis/applied project students and PhD students with master's degree) or by the end of the fourth semester (PhD students without a master's degree).

## Establishing the Committee

### Thesis & Dissertation

- Confirm directly with the committee chair and members that each person is willing and able to participate on the committee. The *Supervisory Committee Form* should be completed and submitted to the Manager of Graduate Programs. In addition, the student must add each committee member on the iPOS to officially establish the committee with the university.
- If committee changes are needed, submit the *Committee Change Form*. Committee changes must also be submitted on the iPOS.
- Student must submit the *External Committee Member Request* to add committee members outside SGSUP if the individual does not appear in the iPOS committee member search function.
- To verify that a faculty member is approved to serve on PhD committees, visit Graduate Faculty. If the student is unsure if a faculty member is approved, or they know special approval is required to serve on the student's committee, contact the Manager of Graduate Programs.

## Applied Project

- Confirm directly with the committee chair and members that each person is willing and able to participate on the committee. The *Supervisory Committee Form* should be completed and submitted to the Manager of Graduate Programs.
- If committee changes are needed, submit the *Committee Change Form.*
- Applied project committees do not need to be submitted via iPOS.
- Committee members must sign the *Applied Project Scope Statement* prior to beginning work on the applied project

# How to: Thesis/Dissertation

The following is an outline to assist you through the defense process. Visit Graduate College for additional information and clarification. If you have questions about any of the steps and procedures below, please contact the Manager of Graduate Programs.

## Preparing to schedule your defense

Prior to scheduling your defense, ensure that you meet the following requirements:

- Approved iPOS on file (no pending changes or petitions)
- All minimum 3.0 GPA requirements met (iPOS, Graduate, and Cumulative)
- Approved full committee on iPOS (no pending changes)
- No incomplete grades on iPOS
- All milestone requirements have been satisfied (Doctoral students must have reached candidacy: comprehensive exams submitted and proposal/prospectus accepted)
- Enrolled in a minimum of 1.0 credit hour during the semester in which you are defending, including summer

Additionally, you will not be able to make changes to your iPOS once you have passed your defense, so this is the best time to make sure everything is accurate.

## Selecting a Date

Review the Graduate College 10 Working Day Calendar for deadlines, such as last day to schedule a defense, last day to hold a defense, and blackout dates. Contact your supervisory committee members and ask for the days and times they are available to meet for your defense. It is best to give them a one or two-week time frame that works for you as well. Skype or other web conferencing is permitted for committee members, but at least 50% of your committee must be physically present for your defense. The chair (or at least one co-chair) must be physically present. All defenses must be held at an ASU campus.

## Scheduling a Room

Visit SGSUP Room Reservations and request a room for your public defense. Include set-up and break-down time in your reservation request. If you need to reschedule your defense, follow all Graduate College directions regarding rescheduling defenses.

## Scheduling Your Defense

After you and your committee have agreed upon a day and time and your room is reserved, schedule your defense via the ***My Programs*** module in MyASU. If you have questions, please contact the Manager of Graduate Programs or Graduate College. After your defense is approved by Graduate College, the *Announcement and Report of Doctoral Dissertation Defense* or *Report for Master's Thesis Defense* (aka Pass/Fail form) will be sent to your supervisory committee, the Manager of Graduate Programs and your ***My Programs*** module in MyASU.

## ProQuest Document Ready Check (10 days before your defense)

No less than ten days before your defense you must submit your completed thesis/dissertation document to Graduate College via Dropbox. This is a pre-check to make sure your document is ready to be published in the ProQuest system. Before submitting, double-check your document using Graduate College guidelines. Refer to How to: Format for additional information.

## Submitting an Abstract (at least one week prior to defense)

Once your defense date has been approved, submit an abstract to the Manager of Graduate Programs. Approximately one week prior to your defense, an announcement will be sent to the SGSUP listservs. If you would like the announcement to be sent sooner than one week prior, please notify the Manager of Graduate Programs.

## Holding the Defense

The oral defense is a public meeting that includes the student, chair, committee, and anyone else who would like to attend. As the defense is also an examination of the student's research, most of the meeting is devoted to the student's presentation of the research and the committee's questions to the student. The chair serves as the facilitator of the defense and determines whether, and when, those not on the committee can ask questions or offer comments. When the committee is determining the outcome of the defense, the student and non-committee members are asked to leave the room. Possible outcomes of the defense, as specified and defined on Pass/Fail form are pass, pass with minor revisions, pass with major revisions, or fail. Once the student has successfully defended the dissertation, the committee must sign the Pass/Fail form. Students must complete required revisions before the chair signs Section D: Final Approval and submits it to the Manager of Graduate Programs.

## Pass/Fail Form Due (within 10 calendar days after defense)

The Pass/Fail form must be signed by all supervisory committee members. If a member of your supervisory committee is absent, please follow the Absent Committee Member Procedures. The Pass/Fail Form and any approval emails from absentee committee members must be submitted to the Manager of Graduate Programs within ten days of holding your defense. Once your Pass/Fail form is submitted you cannot make any changes to your iPOS, so it is imperative that it be correct and complete before holding your oral defense.

## After Your Defense

After the Pass/Fail form is processed, you will receive a prompt in MyASU to upload your document to ProQuest. If you have revisions to your document, follow Graduate College's instructions on revisions. If you have changes from your committee, discuss them with your committee chair. Formatting revisions should be made in consultation with a Format Advisor and in line with the Format Manual. You are responsible for meeting all deadlines. Refer to How to: Format for additional information.

# How to: Format

Students completing a thesis or dissertation must submit the written document to Graduate College in a specific format for publication. Refer to the Format Manual for specific requirements, processes and deadlines.

**Format Review Process**

1. Submit document to Graduate College Format Dropbox at least ten days prior to defense
    a. Student will receive automated email acknowledging receipt of document
    b. MyASU Format Status: **Pending Review**
2. Format Advisor contacts student after first format review is complete
    a. Revisions are usually required; sometimes multiple rounds
    b. MyASU Format Status: **Revisions Required** (this status remains the same for first, second, third, etc. round of revisions)
3. Once Pass/Fail form is processed by Graduate College after the defense, Format notifies student via MyASU and email to upload document to ProQuest
    a. Instructions on upload will be provided
    b. MyASU Format Status: **Ready for ETD/ProQuest**
4. ProQuest reviews and approves document for publication
    a. Student receives confirmation email with ProQuest ID #
        i. Keep this email for your records; you cannot graduate without your ProQuest ID# posted
        ii. In the event that it does not get automatically updated in your official record, the Manager of Graduate Programs will contact you for a copy of your ProQuest approval confirmation
    b. MyASU Format Status: **Format Approved**

For additional questions regarding Format, contact a Format Advisor.

# How to: Travel

All travel must be approved at least two weeks before the planned travel dates. Travel advances are not given to graduate students.

## Create Travel Profile

If you have never used the travel system you will need to complete the *My ASU TRIP Profile Request*. This form must be submitted and approved before your travel request can be processed. It is important that you use the correct forms for your program. Do NOT use the wrong form.

To complete the request*:*

- **User Name**: Enter your full given name as it appears in your student record. No nicknames.
- **Affiliate ID:** Enter your 10-digit student ID number
- **ASURITE ID**: Enter the User ID you use to login into MyASU

Once the form is completed please return it to the SGSUP Authorizing Travel Official named on the form. They will sign and submit it to the ASU Travel Service Center. It will take approximately 3-5 business days for your MyASU TRIP profile to be created. Due to the volume of requests, the ASU Travel Service Center does not notify individuals when an account is completed. You will need to log into My ASU TRIP and check to see if your account has been created.

If you have any questions about the form, please contact the SGSUP Authorizing Travel Official, listed on the form.

## Create Travel Request

After your MyASU TRIP profile request is approved and you have a Trip Profile, create your Travel Request.

Important information before you submit your Travel Request:

- If you have any questions or would like an appointment for assistance, please contact SGSUP.gradadvising@asu.edu
- When you return, save your receipts as a PDF and attach them to your Expense Report