

In addition to graduate level GCU, GIS, GPH, or PUP courses, any course on this list may be taken as elective without approval from SGSUP. Refer to this 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.

Interdisciplinary courses not on this list must be approved by SGSUP. 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.

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. 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.

HCD	502	Health Care Systems and Design	3.0	Fall	Introduces direct health care delivery structures and processes within and across health care settings, and their impact on the patient, family and community experience of the health care system and services. Examines the interaction among people, resources, delivery systems and built environments using perspectives, tools and strategies from multiple disciplines to evaluate strengths, gaps and opportunities for system improvements.
LAP	598	Topic: Advanced GIS Applications in Environmental Design	3.0	Spring	Addresses fundamentals of Geographic Information Systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for acquiring, displaying, editing, analyzing and modeling spatial information. MUEP Note: can be taken as substitute for PUP 576 if there is an unavoidable schedule conflict, petition must be completed
NLM	565	Grant Writing Nonprofit Organizations	3.0	Fall, Spring, Summer	Provides practical, experiential instruction identifying grant makers, writing proposals, developing budgets, and evaluating grant proposals for the nonprofit sector. Students develop proposals based on actual, identified needs of their partner nonprofit organization.
PAF	502	Public Service Research II	3	Fall 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	503	Public Affairs	3.0	Fall, Spring, Summer	Development and context of American public administration and policy, role of administration in governance, and values and ethics in administration
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. Prereq: PAF 504 - Check with faculty to see if this can be waived
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. 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. 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. 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.
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: can be taken as substitute for PUP 576 if there is an unavoidable schedule conflict, petition must be completed

PAF	573	Applied Econometrics	3	Fall	<p>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.</p> <p>Prereq: PAF 502 - Check with faculty to see if this can be waived</p>
PAF	574	Diversity, Ethics, Public Change	3	Fall	<p>Focuses on leadership, ethics, and benefits and tensions of the multicultural city to develop leadership and multicultural competence.</p>
PAF	591	Seminar: Policy Studio: Evaluation, Design, and Delivery	3	Fall	<p>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.</p> <p>Due to space limitations and the rigor of the course, students will be selected to enroll in this course through a competitive application process.</p>
PAF	591	Seminar: Ending Homelessness through Public Policy	3	Fall	<p>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.</p>
PAF	591	Seminar: Intro to Policy Informatics	3.0	Spring	<p>Policy informatics is the study of how computational and communication technology is leveraged to specifically understand and address complex public policy and administration problems and realize innovations in governance processes and institutions. It is built on the fundamental premise that information can be efficiently and effectively mobilized to enable evidence-driven policy design, implementation, and analysis in a legitimated governance environment. Policy informatics advances the goal of building public institutions that are transparent, collaborative, and participatory.</p>
REA	456/594	Real Estate Investments	3.0	Fall, Spring	<p>Analyzes investment decisions for various property types. Cash flow and rate of return analysis.</p>

RED	503	Real Estate Market Analysis	2.0	Fall	Focuses on market analysis and market data gathering methods, means, and techniques necessary in identifying market opportunities and developing specific market strategies for successful real estate development.
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	530	International Development and Sustainability	3.0	Fall	Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale
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	494/591	Seminar: Climate Change and Health	3.0	Fall	The course will provide an evidence-based, comprehensive, and quantitative estimation, where possible, of health impacts of observed and projected climate change. The course is also designed to introduce students to federal, state, and local initiatives related to these topics, promote critical reading and thinking skills, provide the opportunity to develop and refine scientific arguments, and increase awareness of the scope of the scientific and professional community working in the space. There are no explicit prerequisites for the course, but prior coursework related to climatology, meteorology, geography, public health, epidemiology, environmental health, ecology, biology, and/or public policy is preferred. The course is not intended to serve as an introduction to any of these particular fields of study.

SOS	494/591	Seminar: Society and Natural Resources Management	3.0	Fall, Spring	This course explores the relationship between society and natural resources. Emphasis is on social and institutional dimensions of common pool natural resources management. Some of the specific topics to be covered include contribution of sociology to the study of natural resources, changing paradigms and theories, political economy of natural resources management, collective action and the commons, community-based resource management, co-management, property rights and institutions governing the use and maintenance of the resource. This will be a reading and writing intensive course
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.
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.
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. including 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, 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.
SOS	494/598	Topic: Introduction to Quantitative Research in R	3.0	Fall	This course gives students an opportunity to use the public domain and free software R to perform basic quantitative analysis. The R language provides a rich environment for working with data, especially for statistical modeling and graphics. In this course we will cover data import and management, basic functions, plotting tools, loops and functions, basic linear models, and various graphing tools. Students will identify appropriate methods for data manipulation, visualization, and analysis using the R environment. This is a hands-on, project-based course to enable students to develop skills and to solve statistical problems using R
SOS	494/598	Topic: Social Dimensions of Climate Change	3.0	Summer, Fall	The way societies respond to observed impacts or forecasts of climate change depend on a complex mix of political, cultural, economic, technological and moral dimensions. Some of the response may reduce the risks of climate change and help identify trajectories towards resilient society, or create additional challenges and risks. Knowledge plays a critical role in informing all aspects of societal dimensions, both in terms of providing insights of risks and opportunities, and in providing new solutions for adaptation and transformation in the face of global environmental risks. This class explores the social dimensions of climate change from seven key steps of policy cycle: assessment, participation, accountability, equity, empowerment, transparency and outcomes