I. **Program Details**
   a. **Name (and Degree Type) of Proposed Academic Program:** Professional Science Masters (PSM) in Resilience Practice
      i. **Emphases (if applicable):** International Development, Climate Adaptation and Mitigation, Water Conservation and Adaptation
      ii. **Academic Unit(s)/College(s):** College of Social and Behavioral Sciences (SBS), in partnership with Arizona Institute for Resilience (AIR; nonacademic unit under RII)
   b. **Desired CIP Code: 30.3301 (Sustainability Studies)**
   c. **Campus/Location(s):** Main Campus and Arizona Online
   d. **First Admission Term:** Fall 2025
   e. **Primary Contact and Email:** Leona Davis, AIR Associate Director for Professional Education, leonafdavis@arizona.edu

II. **Executive Summary**

   This proposed professional masters program offers a new opportunity for interdisciplinary career training in the growing field of environmental and community resilience, sustainability, adaptation, and management. Students choose one of three specializations to gain necessary technical skills and real world experience: International Development, Climate Adaptation and Mitigation, or Water Conservation and Adaptation. This program leverages the expertise of Arizona Institute for Resilience (AIR) teaching and research faculty, as well as experienced professionals from AIR's many regional and international nonprofit, business, and government agency partners. As a professional program rather than a research-focused degree, the program will attract new students to the University of Arizona who will graduate with field experience and knowledge necessary to be highly competitive in careers related to environmental and community resilience, sustainability, and climate adaptation in public or private sectors.

   Knowledge and skills for resilience and adaptation– the capacity to mitigate harm and adapt to change in planning and management – is increasingly desired by employers (Congressional Climate Jobs Fact Sheets, 2021; World Economic Forum, 2023; LinkedIn Green Jobs Report, 2023). Although this field intersects with environmental conservation, natural resources management, planning, and monitoring, employers across sectors have described a unique set of competencies necessary for resilience and adaptation careers (American Society of Adaptation Professionals, 2023; Association of Climate Change Officers, 2024; United Nations Environment Programme, 2024; Sustainability Education Accreditation Commission, 2024). This program's curriculum is informed by these key competencies. By the end of the program, students will be able to discern information from diverse sources for decision-making, design, implement, manage, and evaluate contextually appropriate resilience and adaptation strategies, practice collaborative and inclusive leadership, effectively communicate resilience and adaptation concepts and impacts, and navigate key organizations and career pathways specific to their professional goals.

This program partnership between AIR and SBS offers several unique advantages for both program sustainability and student experience. SBS's existing Transdisciplinary Programs unit provides robust student support infrastructure, while AIR's existing network of agency, industry, and non-profit partnerships offer opportunities for students to contribute to real resilience solutions, gain professional experience, and begin building their professional networks while in the program. This partnership also increases opportunities for program sustainability, as an increasing number of research funding opportunities include workforce development components. As one recent example, AIR is currently leading the proposal effort for a NSF Regional Resilience Incubation Incubator (R2I2), which would be leveraged to support education and training activities. As the University of Arizona pursues new strategic investments to support our mission, this program has high potential to bring new resources and students to the institution, as well as to prepare students to address our most pressing and complex challenges.

III. **Brief Program Description:**

In today's rapidly changing world, the need for resilient communities and sustainable solutions has never been more pressing. The PSM in Resilience Practice, a professional science master's program jointly administered by the Arizona Institute for Resilience (AIR) and the College of Social and Behavioral Sciences (SBS), is designed to meet the growing demand for professionals with interdisciplinary skills to tackle complex sustainability, resilience, and adaptation challenges. This program leverages the knowledge of AIR's teaching and research faculty alongside experienced professionals from government agencies, nonprofits, and private sector organizations to provide current and practically applicable career training. Designed for flexibility and accessibility for current professionals or those aspiring to join the resilience workforce, this program offers 7.5 week courses, part-time or full time plans of study, in-person and online course options, and flexibility to complete the capstone project during the summer or academic year.

What students will learn:
- **Core Coursework:** Students gain a deep understanding of key environmental and community resilience challenges, systems and strategic thinking strategies, and collaborative leadership skills. Students explore resilience and adaptation concepts through the unique context of Arizona borderlands and the Sonoran Desert.
- **Specialized Skills:** Through project-based courses, students develop technical expertise in their chosen specialization area —International Development, Water Conservation and Adaptation, or Climate Adaptation and Mitigation. Students can select from a diverse range of electives to tailor their education to their career aspirations.
- **Practical Experience and Network Building:** Students engage in a 200-hour applied capstone project, collaborating with an organization or agency partner under faculty guidance. Through the capstone experience and engagement with other resilience professionals throughout the program, students begin building a professional network before graduation.

IV. **Program Rationale:**

The need for Green Workforce Development: The World Economic Forum's 2023 Future of Jobs report shows that hiring for green roles consistently outpaced the overall hiring rate globally four years in a

row. The LinkedIn Green Jobs 2022 and 2023 Reports similarly showed "green hiring" outpaced general hiring in every region globally. Additionally, LinkedIn reported that while hiring for any job that required a "green skill" grew by 25%, the number of LinkedIn users with an environment- or sustainailibility-related skill on their resume only grew 12%, indicating a significant talent gap. In the U.S., the 2022 Bipartisan Infrastructure Law and Inflation Reduction Act together invested more than $50 billion in climate change adaptation and climate resilience. As evidence of the job market impact of these policies, a Johns Hopkins study suggests that for every $1B invested in flood resilience, 40,000 jobs are created. As a professional program, the PSM in Resilience Practice uniquely prepares students to enter the environmental resilience and sustainability sector immediately, to meet this workforce development need.

Reimaginging the Masters in Development Practice (MDP): The International Development specialization of this degree has been designed in collaboration with current and former faculty in the School of Geography, Development, and Environment (SGDE) in SBS, as a reimagining of the Master of Development Practice program, which they elected to end permanently in Spring 2024. This program started along with over 30+ MDP programs at other institutions with funding from the John D. and Catherine T. MacArthur Foundation in 2010. After years of success, the program became difficult to sustain without additional funding. Faculty and alumni from the MDP program have helped inform the PSM program design to keep what was successful (strong practitioner presence, project-based learning) and revise what was challenging (high total credit requirement, less accessible program format) in this new program.

Partnership for program sustainability: Offering this program through AIR and SBS leverages the partnerships and resources of both units to ensure program sustainability. Through SBS, students may access scholarships and necessary administrative support. Through AIR, this program can benefit from the expertise, student learning opportunities, and resource collaborations with partner agencies and organizations. Additionally, this program allows AIR to leverage research funding opportunities with goals related to education and workforce development to further support the program.

V.   **Projected Enrollment for the First Three Years:**

Year 1	Year 2	Year 3
15 Main Campus (MC) 15 AZ Online (AZO)	35 MC (20 new, 15 continuing) 35 AZO (20 new, 15 continuing)	55 MC (25 new, 20 continuing) 55 AZO (25 new, 20 continuing)

VI.   **Evidence of Market Demand:**
There is an increasing demand for resilience professionals with interdisciplinary training in corporations, nonprofits, and government agencies. This demand is supported by high enrollment rates and job placement rates from similar professional master's programs related to resilience, sustainability and environmental management. The following data supports our enrollment projections.

Peer Program	Current total enrollment	Job placement rate*
University of Colorado, Boulder Master of the Environment (MENV) *In person*	200	90%
University of Michigan, MS in Environment and Sustainbility (MS) *In person*	128	89%
Arizona State University, Master of Sustainability Leadership (MSL) *Online*	103	96%
Yale University, Masters of Environmental Management (MEM) *In person*	150	91%
University of California Santa Barbara, Master of Environmental Science and Management	87	90%

*Data from most recent alumni survey; does not include students pursuing further studies.

Although the term "resilience" is increasingly represented in job postings, especially in environmental management, public service, international development, and business (Global Council for Science and the Environment, 2022), it can be difficult to capture in workforce data as relevant positions span many different job sectors. The American Society for Adaptation Professionals job board provides a snapshot of relevant job postings. Recent examples of target job titles include City of Tucson Chief Resilience Officer, positions in the State of Arizona Governor's Office of Resiliency, and US Department of the Interior Regional Climate Resilience Coordinator. Although these titles are not yet listed in Department of Labor (DOL) workforce data, several relevant titles in the DOL database below also reflect a growing job market.

Job Title/Area	Projected Job Openings 2021-2031	Percent requiring Masters	Median Wages (annual)	Projected Growth National	Projected Growth Arizona
Sustainability Specialist	114,200	39%	$74,670	4% to 7%	19%
Climate Change Policy Analyst	7,800	13%	$76,530	4% to 7%	12%
Chief Sustainability Officer	17,700	74%	$179,520	-2%	7%

Source: US Department of Labor: https://www.dol.gov/agencies/eta/onet

VII. **Similar Programs Offered at Arizona Public Universities:**

University of Arizona, School of Natural Resources and the Environment:
MS in Water, Society & Policy (in person, plan to start online in Fall 2026): The Water Conservation and Adaptation specialization of this proposed program is similar to the Water, Society and Policy (WSP) program in that both are non-thesis masters degrees related to water. However, this proposed interdisiplinary program differs significantly in that none of the required coursework is related to water science or water policy, but rather systems thinking, stakeholder collaboration, social and community context, and water resilience project planning. Key faculty

from the WSP program have been consulted throughout the design process of this new program, to ensure unique content and minimize overlap in course content and learning objectives. We believe this would draw a unique student population.

Arizona State University, **School of Sustainability:** Master of Sustainability Solutions (in person), Master of Sustainability Leadership (online)
Similar to the proposed program, the Master of Sustainability Solutions (MSUS) and Master of Sustainability Leadership (MSL) are applied master's programs with a capstone component. However, the MSUS and MSL program do not offer specializations. The ASU MSL is significantly different from the proposed program in its emphasis on business and corporate sustainability. Core courses like Pathways to Sustainability and Strategic Sustainability and Leadership teach how to achieve sustainability goals within an organization.

Northern Arizona University, **School of Earth and Sustainability:** MS in Climate Science and Solutions (in person).
Similarly to the Climate Adaptation and Mitigation specialization of this proposed program, the MS-CSS at NAU emphasizes climate adaptation strategies, career development, and a professional internship (similar to the capstone). However, the NAU program differs in its emphasis on environmental science and business strategies. Although environmental science and business/management courses are offered as electives in the PSM in Resilience Practice, they are not part of the core coursework.

VIII. **Resources**
The launch of this program will be supported by funding provided to AIR from RII to initially hire and support administrative and instructional staff. The projected enrollment targets are modest compared to peer programs but realistic for this new program, and show that tuition revenue will exceed total program costs starting in Year 2. Additionally, SBS commits their existing administrative and student support staff and resources to support various administrative activities related to students, courses, and degrees. Although the campus tuition revenue-sharing model starting in FY26 has not yet been announced, this proposal assumes both AIR and SBS will receive sufficient funding from central administration to cover ongoing program administration costs, as detailed below. As projected enrollments are reached, this program will yield significant new revenues for the university.

a. **New staff (AIR):**
Associate Director of Professional Education: This full-time position started in August 2023 and was funded for three years by RII to develop, design, and launch the PSM in Resilience Practice.
Professional Education Program Coordinator: Full time position with initial funding from RII, to be hired Spring 2025.
Capstone Coordinator and Career Advisor (capstone project support, career advisor) Full time position with initial funding from RII, to be hired near the start date of the PSM program (Fall 2025).

Instructional faculty (AIR):

1 Associate and 1 Assistant Professors of Practice, full-time: Provide instruction for core curriculum (4 courses), specialization curriculum (total of 3 courses), and capstone project supervision, to be hired in Spring 2025

3 Adjunct Instructors, part-time: Qualified professionals to provide instruction for specialization courses (total of 3 courses or course equivalents per year), to be hired for Spring 2027

Facilities & Equipment (AIR):
Includes: Classrooms, computer lab time, office space and furniture for staff, furnishings for student common space, computers for faculty/staff

b. **Estimate total expected cost:**
The total expected cost of the program includes the staff and faculty salaries and benefits, as well as the equipment and facilities needed for the students, faculty, and staff, as described below. The costs are estimated assuming that the core and specialized curriculum and capstone project supervision will be taught by instructional faculty based in AIR, and additional electives will be taught by departments across campus.

Costs detailed below to be covered by AIR
Year 1 (FY26):
Associate Director: $115,000 + 31.9% ERE = $151,685
Program Coordinator: $60,000 + 31.9% ERE = $79,140
Associate Professor of Practice A (full time): $90,000 + 31.9% ERE = $118,710
Assistant Professor of Practice B (full time): $70,000 + 31.9% ERE = $92,330
Capstone Planning Lab co-instructors (3 per course; 3 sections): $1,000 x 9 = $9,000
AIR Operations staff (providing communications, IT, administrative support): $50,000
Marketing: $50,000
Equipment: $15,000
Facilities: $20,000
NPSMA Affilitation Annual Fee: $525
YEAR 1 TOTAL: $585,853

Year 2 (FY27) and ongoing, in addition to costs noted above:
Year 2: Adjunct Instructors (total of 3 courses): $8,000 per course = $44,000
Year 2: Capstone Coordinator and Career Advisor (full time): $60,000 plus 31.9% ERE = $79,140
Year 2: Capstone Showcase event expenses: $1,000
Year 2: Guest professional speaker honorariums: $100 x 15 speakers = $1,500
YEAR 2 and ongoing annual total: $725,319

Costs detailed below to be covered by SBS:
Business Office staff time (tuition and scholarship transactions)
Administrative staff time (course administration)
Student support staff time and materials (scholarship administration, convocation events, student petitions and appeals, enrollment issues, etc.)
Y1 estimated operating cost: $90,000
Y2 and beyond: $30,000 additional per year as the program grows

c. **Estimate total expected revenue of the program:**

The total expected revenue of the program is based on 30 new students total enrolled in year 1, 40 new students enrolled in year 2, and 50 new students enrolled in year 3. As this is a two-year, 33-unit program, the calculations below reflect 16-17 credits per year per student, and 30 total students in Y1, 70 in Y2, and 110 in Y3. Tuition revenue is based on the Fall 2024 graduate tuition rate of $1,053.00 per credit hour for AZ resident Main Campus tuition, and $750 per credit for Arizona resident online tuition.

Pending the announcement of a new campus-wide tuition revenue-sharing model for FY26, we anticipate a revenue split between central campus, SBS, and AIR, to at least cover program administration costs as described above in Year 3 and beyond. **For Year 1, AIR is prepared to make up the Y1 revenue shortfall with internal funds.**

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Revenue	$513,810	$1,036,725	$1,325,205	$1,613,685	$1,902,165
Total Costs	$666,874	$845,348	$886,961	$928,806	$970,740
Net Revenue	-$153,019	$191,377	$438,244	$684,879	$931,425

IX. **Required Signatures** *(the following should be included in the notification memo to campus after ABOR approval):*

a. **Program Director/Main Proposer:**

    i. **Signature:**

    ii. **Name and Title:** Leona Davis, AIR Associate Director for Professional Education

    iii. **Date:** September 12, 2024

b. **Managing Unit/Department Head:**

    i. **Signature:**

    ii. **Name and Title:** Sharon K. Collinge, Director, Arizona Institute for Resilience

    iii. **Date:** September 12, 2024

c. **College Dean/Associate Dean:**

    i. **Signature:**

ii. **Name and Title:** Amy C. Kimme Hea, Senior Associate Dean, Academic Affairs and Student Success

iii. **Date:** September 12, 2024

New Academic Program
PEER COMPARISON

Select two peers (if possible/applicable) from 4-year AAU members, and/or other relevant institutions recognized in the field. The comparison programs may have a different degree type and/or title as the proposed UA program. Details of the proposed UA program must be consistent throughout all proposal documents.

Program name, degree, and institution	PSM Resilience Practice, University of Arizona	Master of Sustainability Leadership (MSL), Arizona State University	Master of the Environment (MENV), University of Colorado Boulder
Estimated completions for last two years, MAJORS only*	███████████████	103	200
Program Description	In today's rapidly changing world, the need for resilient communities and sustainable solutions has never been more pressing. The PSM in Resilience Practice, a professional science master's program jointly administered by the Arizona Institute for Resilience (AIR) and the College of Social and Behavioral Sciences (SBS), is designed to meet the growing demand for professionals with interdisciplinary skills to tackle complex sustainability, resilience, and adaptation challenges. This program leverages the knowledge of AIR's teaching and research faculty alongside experienced professionals from government agencies,	The Master of Sustainability Leadership (MSL) degree at Arizona State University will prepare professionals to advance social and environmental responsibility. The program teaches organizational leadership skills through the lens of sustainability. This fully online program equips graduates to drive high-impact global sustainable results for their companies, organizations, and communities through their own careers. Graduates will be prepared to advance sustainability practices and strategically communicate sustainability as the gold standard for best institutional practices. Through the program, students focus on	The Masters of the Environment (MENV) Graduate Program at the University of Colorado Boulder is an innovative, interdisciplinary professional master's degree that equips students with the knowledge, skills, and experience necessary to address the complex environmental challenges of the 21st Century. This two-year, on-campus, immersive, cohort-based graduate program builds students into leaders in a wide range of careers in conservation, consulting, energy, natural resources, planning, policy, sustainability, and more. While in the program, students must choose to concentrate their studies in one of five specializations:

		strategy, global context, leadership and communications.	Environmental and Natural Resources Policy, Renewable and Sustainable Energy, Sustainability in the Outdoor Industry, Sustainable Food Systems, or Urban Resilience and Sustainability.
	nonprofits, and private sector organizations to provide current and practically applicable career training. Designed for flexibility and accessibility for current professionals or those aspiring to join the resilience workforce, this program offers 7.5 week courses, part-time or full time plans of study, in-person and online course options, and flexibility to complete the capstone project during the summer or academic year.		
Target Careers**	Chief Sustainability Officer, Chief Resilience Officer, Climate Resilience Program Manager, Resilience Evaluation Manager, Water Conservation Program Manager, Development Program Manager	Sustainability Coordinator/ Manager/ Consultant, Chief Sustainability Officer, Business Optimization Manager	Energy and Sustainability Consultant, Resilience Planner, Energy System Modeler, Climate Action Analyst, Forest Program Manager, Sustainability Associate
Emphases? (Yes/No) List, if applicable. For majors only.	Yes - International Development, Water Conservation and Adaptation, Climate Adaptation and Mitigation	No	Yes - Environmental and Natural Resources Policy, Renewable and Sustainable Energy, Sustainability in the Outdoor Industry (online), Sustainable Food Systems, Urban Resilience and Sustainability
Minimum # of units required	33	30	48
Special requirements to gain admission to program? (i.e. pre-requisites, GPA, application, etc.)	Applicants must have a bachelor's degree from an accredited U.S. institution or the international equivalent, and a minimum 3.0 GPA calculated per UA Graduate College Admissions policy. A minimum of one	Applicants must have a minimum cumulative GPA of 3.00 in the last 60 hours of their first bachelor's degree program, or they must have a minimum cumulative GPA of 3.00 in an applicable master's degree program. Applicants must have three years of	Applicants must have a four-year bachelor's degree from an accredited U.S. institution or the international equivalent. A minimum of one year of professional experience or applicable training is recommended.

	year of relevant professional experience is recommended.	professional work experience in any field.	
Internship, practicum, or applied/experiential requirements? If yes, describe.	Yes; Students complete a 2-credit Capstone Planning course, a 5-credit Capstone (in teams), and 1-credit Capstone Communication course.	Yes; Students complete a 3-credit Capstone Preparation course and a 3-credit Applied Project in teams.	Yes; Students complete a 9-month Capstone project in teams.
GRAD - Master thesis or dissertation required? If yes, please describe.	No	No	No
Additional requirements	No	No	No

*Numbers of **current enrolled students** obtained through personal communication with program administrators, as a proxy for completions over two years. Both peer programs are two-year programs.
**Data obtained through program alumni career destination reports.

Additional questions:
1. How does the proposed program align with peer programs? Briefly summarize the similarities between the proposed program and peers, which could include curriculum, overall themes, faculty expertise, intended audience, etc.

Like the proposed PSM Resilience Practice, the ASU MSL and CU Boulder MENV are master's programs intended for students who want to join the environmental/ sustainability/ resilience workforce, and who are not likely to be pursuing research-intensive or academic careers. These programs require that students complete a Capstone project with a partnering organization in small student teams, rather than complete a research thesis, and emphasize professional/applied learning in their curriculum.

2. How does the proposed program stand out or differ from peer programs? Briefly summarize the differences between the proposed program and peers, which could include curriculum, overall themes, faculty expertise, intended audience, etc.

The ASU MSL is significantly different from the proposed program in its emphasis on business and corporate sustainability. Designed especially for professionals looking to upskill or bring added value to their company, core courses like Pathways to Sustainability and Strategic Sustainability and Leadership teach how to achieve sustainability goals within an organization. There are no specializations offered.

The CU Boulder MENV is significantly different in that it is a more time-intensive cohort-based program (48 credits over two years), offered in-person only, except for the Sustainability in the Outdoor Industry specialization which is offered online. None of the five MENV specialization areas overlap with the specialization areas in this proposed PSM program.

3. How do these differences make this program more applicable to the target student population and/or a better fit for the University of Arizona?

The interdisciplinary faculty and institutional relationships beyond campus that Arizona Institute for Resilience brings to this program set it apart from comparable professional masters programs. These relationships allow for having practitioner-instructors, supported by faculty, working directly with students in the specialization courses and in capstone projects, resulting in direct connections to agencies and organizations in the resilience job sector. Additionally, this program aims to highlight resilience challenges and best practices from our unique geographic region as key case studies for student learning; from proximity to the national border and tribal nations, extreme heat risks, and desertification, to leading municipal stormwater infrastructure strategies, the adaptive capacities of desert plants and animals, and our community's diverse cultural influences. AIR's existing partnerships and the unique learning opportunities from our region position us well to provide excellent applied learning opportunities related to the intersections of resilience and international development, climate adaptation and mitigation, and water conservation and adaptation.

Our proposed program strives to maximize accessibility, to offer high quality professional education to students who have already begun their careers. For this reason, we plan to offer all courses owned by the program as 7.5 week classes with in-person and online options, as well as options to complete the program more intensively in 18 months or less intensively in 4-6 semesters. Additionally, students will have options to do a summer or academic year capstone, either in-person or virtually, providing flexibility to complete the program in the way that works best for the student's life and career goals.

1. **MAJOR REQUIREMENTS**– complete the table below by listing the major requirements, including required number of units, required core, electives, and any special requirements, including emphases* (sub-plans), thesis, internships, etc. Note: information in this section must be consistent throughout the proposal documents (comparison charts, four-year plan, curricular/assessment map, etc.) Complete the table in Appendix A if requesting a corresponding minor/Master's.

GRADUATE - PSM in Resilience Practice

Total units required to complete the degree	33
Pre-admissions expectations (i.e., academic training to be completed prior to admission)	Bachelor's degree in any field, or equivalent for international students per UA Graduate College International Admissions Minimum 3.0 GPA, calculated per UA Graduate College Admissions policy Proof of English proficiency provided using Acceptable English Proficiency Credentials is required for any international applicant born in a country where English is not the official language. At least one year of relevant professional experience is recommended. Submission of GRE scores are not required.
Major requirements. List all major requirements including core and electives. If applicable, list the emphasis requirements for each proposed emphasis*. Courses listed must include course prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.	**Core Courses**: 10 units – All <mark>NEW</mark> courses RESI 501 Diverse Environmental Knowledges (3 units) RESI 502 Systems Thinking (3 units) RESI 505 Sonoran Desert Resilience (1 unit) RESI 600 Collaborative Leadership (3 units) **Capstone Courses:** 8 units – All <mark>NEW</mark> courses RESI 598a Capstone Planning Lab (2 units) RESI 598b Capstone (5 units) RESI 598c Capstone Communication Lab (1 unit)

Complete 6 units in ONE of the following emphasis areas: International Development, Climate Adaptation and Mitigation, or Water Conservation and Adaptation

Climate Mitigation and Adaptation – All NEW courses
RESI 601 Climate Adaptation and Mitigation Strategies (3 units)
RESI 602 Climate Adaptation Planning and Management (3 units)

International Development – All NEW courses
RESI 611 International Development and Humanitarian Assistance (3 units)
RESI 612 International Development Program Management and Evaluation (3 units)

Water Conservation and Adaptation – All NEW courses
RESI 621 Water Conservation and Adaptation Strategies (3 units)
RESI 622 Water Conservation Planning and Management (3 units)

Complete at least 9 units of elective courses, relevant to student's career goals and with approval from advisor:
AIS531A Traditional Ecological Knowledge (3 units)
AIS503 Globalization and Indigenous People (3 units)
AIS526A Principles of Indigenous Economics (3 units)
AIS541A Natural Resource Management in Native Communities (3 units)
AIS596N Hemispheric Indigenous Consciousness (3 units)
ANTH518 Southwest Land and Society (3 units)
ANTH524A Political Ecology (3 units)
ANTH584 An Anthropology of Migration: The Borderlands of the American Southwest and the Mexican North (3 units)
LAS595N Environment and Conflict in Latin America (3 units)
GEOG516A PPGIS: Participatory Approaches in Geographic Information Science (3 units)
GEOG516E Geovisualization (GIS) (3 units)
GEOG530 The Climate System (3 units)

	GEOG583 Geographic Applications of Remote Sensing (3 units)
	GIST501A Introduction to Geographic Information Science (3 units)
	GIST501B Remote Sensing Science (3 units)
	GIST603A Geographic Information Systems Programming and Automation (3 units)
	GIST603B Cartography (3 units)
	GIST604A Applied GIS (3 units)
	GIST604B Open Source GIS (3 units)
	PA507 Conflict Management in the Public Sector (3 units)
	PA581 Environmental Policy (3 units)
	PA582 Managing to Collaborate on Environmental and Natural Resources Conflicts (3 units)
	PA584 Environmental Management (3 units)
	PA620A Collaborative Governance in Theory, Practice and Research (3 units)
	HRTS500 Advancing Human Rights (3 units)
	HRTS501 Advancing Human Rights Organizations (3 units)
	HRTS502 Advancing Human Rights Organizations 2 (3 units)
	HRTS505 Human Rights Voices (3 units)
	HRTS510 Advancing Human Rights Law (3 units)
	HRTS511 Advancing Human Rights through Strategic Litigation (3 units)
	HRTS543 Advancing Human Rights with Technology (3 units)
	HRTS595A Human Rights Across Contexts (1 unit)
	HRTS596A Human Rights Crises (topics vary) (1 unit)
	HRTS597A Human Rights Field Trips (1 unit)
	MENA543 Environmental History of the Middle East (3 units)
	COMM610 Communication Theory 1 (3 units)
	COMM620 Theories of Social Influence (3 units)
	ARL565 Physical Aspects of Arid Lands (3 units)
	ARL642 Use and Management of Arid Lands (3 units)
	GC578 Global Change (3 units)
	GC597A Global Change Research, Application, and Decision-Making (3 units)
	EIS536 Agroecology (3 units)

	EIS568 Integrated Pest Management (3 units)
	INFO510 Bayesian Modeling and Inference (3 units)
	INFO523 Data Mining and Discovery (3 units)
	INFO526 Data Analysis and Visualization (3 units)
	HPS529 Project Design and Implementation in Global Health (3 units)
	HPS533 Global Health (3 units)
	HPS534 Infectious Diseases, Global Health & Development (3 units)
	HPS559 Management of Global Health Emergencies (3 units)
	BIOS576A Biostatistics for Public Health (3 units)
	BIOS670 Chronic Disease Epidemiology (3 units)
	EHS518 Introduction to Human Health Risk Assessment (3 units)
	EHS525 Climate and Health (3 units)
	BE513 Applied Biostatistics (3 units)
	BE523 Biosystems Analysis and Design (3 units)
	BE526 Watershed Engineering (3 units)
	BE528 Control of Erosion Processes (3 units)
	BE544 Aquaponics Engineering (3 units)
	BE556 Irrigation Systems Design (3 units)
	BE555 Soil and Water Resources Engineering (3 units)
	BE558 Wastewater Treatment Operations and Reuse (3 units)
	BE579 Applied Instrumentation for Controlled Environment Agriculture (3 units)
	BE583 Controlled Environment Systems (3 units)
	CHEE525 Emerging Issues in Water Quality (3 units)
	CHEE575 Water Treatment System Design (3 units)
	CHEE576 Wastewater Treatment System Design (3 units)
	CHEE582 Analysis of Emerging Environmental Contaminants (3 units)
	ALC509 Team and Organizational Leadership (3 units)
	ALC510 Community Innovation and Entrepreneurial Leadership (3 units)
	ALC511 Principles and Applications of Organizational Innovation (3 units)
	ALC522 Communicating Knowledge in Agriculture and the Life Science (3 units)
	ALC555 Business Creation in Agriculture and Life Sciences (3 units)
	AREC512 Development Economics (3 units)

	RNR503 Applications for Geographic Information Systems (3 units) RNR517 Geographic Information Systems for Natural and Social Sciences (3 units) RNR519 Cartographic Modeling for Natural Resources (3 units) RNR520 Advanced Geographic Information Systems (3 units) RNR522 Resource Mapping Using Unmanned Aircraft Systems (3 units) RNR529 Ecological Climatology (3 units) RNR533 Forest Ecology (3 units) RNR535 Restoration Ecology (3 units) RNR540 Climate Change Adaptation: Perspectives at the Nexus of Science, Society, & Resource Management (3 units) RNR558 Ecosystem Ecology and a Sustainable Future (3 units) RNR573 Spatial Analysis and Modeling (3 units) RNR585 Economics and Social Connections to Natural Resources (3 units) RNR595F Conservation Biology: Field Studies in Developing Countries (3 units) RNR595G Amazon Rainforest Conservation Biology (3 units) RNR6153 Ecosystem Service Valuation Methods (3 units) RNR6213 Applied Statistics (3 units) WSM552 Climate Change and Dryland System Hydrology (3 units) WSM562 Watershed Management (4 units) WFSC571 Stream Ecology (3 units) ENVS501 Sustainable Management of Arid Lands and Salt-Affected Soils (3 units) ENVS508 Scientific Writing for Environmental, Agricultural and Life Sciences (3 units) ENVS510 Microbial Biogeochemistry and Global Change (3 units) ENVS515 Translating Environmental Science (3 units) ENVS520 Environmental Physics (3 units) ENVS530R Environmental Monitoring and Remediation (lecture) (3 units) ENVS530L Environmental Monitoring and Remediation (lab) (1 unit) ENVS540 Biodegradation of Pollutants in Soil and Groundwater (3 units) ENVS562 Environmental Soil and Water Chemistry (3 units)

	ENVS565 Contaminant Transport in Porous Media (3 units) ENVS550 Green Infrastructure (3 units) ENVS554 Water Harvesting (3 units) ENVS566 Soil and Groundwater Remediation (3 units) ENVS577 Principles of Ecotoxicology (3 units) ENVS580 Environmental Assessment for Contaminated Sites (3 units) ENVS582 Reclamation and Redevelopment of Impacted Lands (3 units) ENVS567 Statistical Analysis of Ecological and Environmental Data (3 units) ENVS587 Environmental Exposomics (3 units) ENVS596B Water Policy in Arizona and Semi-Arid Regions (3 units) PLG502 Planning for Sustainable Cities and Regions (3 units) PLG 501a Planning Theory and Practice (3 units) PLG508 Climate Action Planning (3 units) PLG569 Transportation and Land Use (3 units) PLG572 Environmental Planning (3 units) PLG573 Transportation and Society (3 units) PLG597S Sustainable Urban Development and Design (3 units) LAR565 Cultural Landscapes (3 units) LAR549 Public Lands Management (3 units) ARC 561K Energy and the Environment (3 units) ARC561L Energy Use in Buildings (3 units) ARC561M Energy Efficient Design (3 units) ARC561N Energy Auditing and Modeling (3 units) HWRS543 Risk Assessment for Environmental Systems (3 units) HWRS573 Hydrology for Water Resources Management (3 units) HWRS577 Advanced Topics in Water Resource Economics and Policy (3 units)
Research methods, data analysis, and methodology requirements (Yes/No). If yes, provide description.	Yes- Students are required to take RESI 501 which covers integration and analysis of environmental data from diverse sources, and RESI 502 which covers systems-based methods of problem analysis and solution design.

	Additionally, the Capstone project requires systematic investigation of a resilience issue, novel synthesis of information, and evaluation of strategy effectiveness.
Internship, practicum, applied course requirements (Yes/No). If yes, provide description.	Yes, students complete 5 units of Capstone, which is an applied learning experience completed with supervision from a community partner. The Planning Lab course prior to the Capstone experience provides learning surrounding the project, project context, and the partnering organization, and supports students in developing project plans in teams. The Communication Lab following the capstone emphasizes communication of capstone project impact to diverse audiences, including the creation of a communication product (e.g. poster, slideshow, website). RESI 598a Capstone Planning Lab (2 units) RESI 598b Capstone (5 units) RESI 598c Capstone Communication Lab (1 unit)
Master thesis or dissertation required (Yes/No). If yes, provide description.	No
Additional requirements (provide description)	None
Minor options (as relevant)	No required minor.

*Emphases are officially recognized sub-specializations within the discipline. ABOR Policy 2-221 c. Academic Degree Programs Subspecializations requires all undergraduate emphases within a major to share at least 40% curricular commonality across emphases (known as "major core"). Total units required for each emphasis must be equal. Proposed emphases having similar curriculum with other plans (within department, college, or university) may require completion of an additional comparison chart. Complete the table found in Appendix B to indicate if emphases should be printed on student transcripts and diplomas.

II. CURRENT COURSES–using the table below, list all existing courses included in the proposed major. You can find information to complete the table using the UA course catalog or UAnalytics (Catalog and Schedule Dashboard> "Printable Course Descriptions by Department" On Demand Report; right side of screen). If the courses listed belong to a department that is not a signed party to this implementation request, upload the department head's permission to include the courses in the proposed program and information regarding accessibility to and frequency of offerings for the course(s). Upload letters of support/emails from department heads to the "Letter(s) of Support" field on the UAccess workflow form. Add or remove rows to the table, as needed.

*All courses listed below are to be included in elective offerings, none are required courses

Course prefix and number (include cross-listings)	Units	Title	Pre-requisites	Modes of delivery (online, in-person, hybrid)	Dept signed party to proposal? (Yes/No)
		No existing courses in the proposed major			

II. NEW COURSES NEEDED – using the table below, list any new courses that must be created for the proposed program. If the specific course number is undetermined, please provide level (i.e., CHEM 4XX). Add rows as needed.

Course prefix and number (include cross-listings)	Units	Title	Pre-requisites	Modes of delivery (online, in-person, hybrid)	Status*	Anticipated first term offered	Dept signed party to proposal? (Yes/No)
RESI 501	3	Diverse Environmental Knowledges	none	7.5wk; In-person and online sections	D	Fall 1 2025	
RESI 502	3	Systems Thinking	none	7.5wk; In-person and online sections	D	Fall 2 2025	
RESI 505	1	Sonoran Desert Resilience	none	7.5wk; In-person and online sections	D	Fall 2 2025	
RESI 600	3	Collaborative Leadership	none	7.5wk; In-person and online sections	D	Fall 1 2026	
RESI 601	3	Climate Adaptation and Mitigation Strategies	none	7.5wk; In-person and online sections	D	Spring 1 2026	
RESI 602	3	Climate Adaptation Planning and Management	none	7.5wk; In-person and online sections	D	Spring 2 2027	
RESI 611	3	International Development and Humanitarian Assistance	none	7.5wk; In-person and online sections	D	Spring 1 2026	
RESI 612	3	International Development Program Management and Evaluation	none	7.5wk; In-person and online sections	D	Spring 2 2027	
RESI 621	3	Water Conservation and Adaptation Strategies	none	7.5wk; In-person and online sections	D	Spring 1 2026	
RESI 622	3	Water Conservation Planning and Management	none	7.5wk; In-person and online sections	D	Spring 2 2027	

RESI 598a	2	Capstone Planning Lab	none	7.5wk; In-person and online sections	D	Spring 2 2026	
RESI 598b	2-5	Capstone	RESI598a	In-person and online sections	D	Summer 2026	
RESI 598c	1	Capstone Communication Lab	RESI598b(concurrent registration OK)	7.5wk; In-person and online sections	D	Spring 1 2027	

*In development (D); submitted for approval (S); approved (A)

Click or tap here to enter text.

III.   **FACULTY INFORMATION-** complete the table below. If UA Vitae link is not provided/available, add CVs to a Box folder and provide that link. UA Vitae profiles can be found in the UA directory/phonebook. Add rows as needed. **NOTE: full proposals are distributed campus-wide, posted on committee agendas and should be considered "publicly visible". Contact Office of Curricular Affairs if you have concerns about CV information being "publicly visible".**

Faculty Member	Involvement	UA Vitae link or Box folder link
Professor of Practice 1	Teach RESI505, RESI601, RESI611, RESI598a (multiple sections), RESI598b (capstone mentorship), Student mentorship	To be hired
Professor of Practice 2	Teach RESI502, RESI600, RESI621, RESI598a (multiple sections), RESI598b (capstone mentorship), Student mentorship	To be hired
Adjunct instructors	Teach RESI602, RESI612, RESI622	Field professionals in the area of expertise; to be hired
Dan Ferguson (AIR)	Teach RESI501	https://profiles.arizona.edu/person/dferg

IV.   **GRADUATION PLAN –** provide a sample degree plan, based on your program that includes all requirements to graduate with this major and takes into consideration course offerings and sequencing. *Undergraduate programs: please complete Addendum D: 4-Year Plan for Degree Search. Use generic title/placeholder for requirements with more than one course option (e.g., Upper Division Major Elective, Minor Course, Second Language, GE Tier 1, GE Tier 2).* Add rows as needed.

Five possible plans of study have been created for this program, with options for students to start in Fall or Spring semester, and to complete their capstone by working close to full time over the summer, or part time over the academic year. Two of these plans are outlined below.

Fall start/ summer capstone

Semester 1		Semester 2		Semester 3		Semester 4	
Course prefix and number	Units	Course prefix and number	Units	Course prefix and number	Units	Course prefix and number	Units
RESI501	3	Elective 1	3	(Summer)		RESI600	3
RESI502	3	RESI601/611/621	3			Elective 2	3
RESI505	1	RESI598a	2	RESI598b	5	Elective 3	3
Total	7	Total	8	Total	5	Total	9

Semester 5		Semester 6		Semester 7		Semester 8	
Course prefix and number	Units	Course prefix and number	Units	Course prefix and number	Units	Course prefix and number	Units
RESI598c	1	Total		Total		Total	
RESI602/612/622	3						
Total	4						

Fall start/ academic year capstone

Semester 1		Semester 2		Semester 3		Semester 4	
Course prefix and number	Units	Course prefix and number	Units	Course prefix and number	Units	Course prefix and number	Units
RESI501	3	Elective 1	3	RESI598b	3	RESI598b	2
RESI502	3	RESI601/611/621	3	RESI600	3	RESI598c	1
RESI505	1	RESI598a	2	Elective 2	3	RESI601/611/621	3
						Elective 3	3
Total	7	Total	8	Total	9	Total	9

V. **LEARNING OUTCOMES AND CURRICULUM MAP** - Complete these tables as a summary of the learning outcomes from your assessment plan and an overview of where learning outcomes are addressed in the program. Use the examples below as models and refer to the explanations beneath each table. Additional resources are available from the University Center for Assessment, Teaching and Technology.

Learning Outcomes - PSM Resilience Practice

Learning Outcome #1: Students will evaluate and summarize environmental information from diverse sources to discern best available information for resilience decision-making.
Concepts: Environmental knowledge, accuracy and validity, integration of environmental, historical, and sociocultural data, cultural bias, risk and vulnerability, cultural humility, stakeholders, environmental communication
Competencies: Interpret environmental information from diverse sources, including environmental science data, local and cultural knowledge, and stakeholder risks and vulnerabilities; evaluate information for relevancy, accuracy, validity, and bias; summarize best available information to be used in decision-making
Assessment Methods: Discussion posts and assignments (direct), student post-program survey (indirect)
Measures: Instructor grading of discussion posts and assignments, responses to post-program survey
Learning Outcome #2: Students will practice collaborative leadership strategies to promote inclusive and equitable planning and management.
Concepts: Group decision making, shared leadership, stakeholder collaboration, meeting facilitation, active listening
Competencies: Identify leadership strengths and weaknesses; facilitate complex conversations; assess stakeholder needs and limitations; generate a collaboration plan; evaluate a collaborative process using equity indicators
Assessment Methods: Discussion posts and assignments (direct), student post-program survey (indirect)
Measures: Instructor grading of discussion posts and assignments, responses to post-program survey
Learning Outcome #3: Students will design feasible and appropriate environmental resilience and adaptation projects, including plans for the implementation, management, monitoring and evaluation.
Concepts: Vulnerability and risk, regional and cultural context, systems thinking, socioenvironmental systems, adaptation and resilience planning, project planning and management, program monitoring and evaluation
Competencies: Apply systems thinking and adaptation principles to design a culturally-appropriate resilience project plan, including implementation, management, monitoring and evaluation
Assessment Methods: Course assignments and projects (direct), student post-program survey (indirect), capstone supervisor survey (indirect)
Measures: Instructor grading of discussion posts and assignments, responses to post-program survey

Learning Outcome #4: Students will effectively communicate concepts of climate change, adaptation, and resilience related to environmental and human systems, to explain the methods, outcomes, and impacts of a resilience strategy.
Concepts: Environmental science translation, communication for diverse audiences, culturally appropriate communication, environmental storytelling
Competencies: Define resilience and adaptation; assess an audience; apply elements of storytelling; employ appropriate format and language; communicate outcomes and impacts; incorporate feedback
Assessment Methods: Student assignments and final projects (direct), student post-program survey (indirect), capstone supervisor survey (if applicable, indirect)
Measures: Instructor grading of assignments and final projects, responses to post-program survey
Learning Outcome #5: Students will demonstrate and apply knowledge of professional sectors and career pathways related to environmental and community resilience, sustainability, and adaptation.
Concepts: Resilience and adaptation career sectors; Resilience and adaptation career pathways
Competencies: Describe resilience-related professional sectors and careers, identify specific organizations and agencies directly involved in students' target resilience job sector; assess possible career paths in students' target career sector, build professional relationships within target career sector
Assessment Methods: Discussion posts and assignments (direct), alumni survey (indirect), student post-program survey (indirect)
Measures: Instructor grading of discussion posts and assignments, post-graduation career destinations, responses to post-program survey

Explanation: **Concepts** *are the topics that students will learn in the program.* **Competencies** *are the skills they will learn. A* **learning outcome** *is their ability to apply the skills to the topics, or to use the skills and the topics together, in an observable way. The* **assessment method** *is where students will demonstrate the learning outcome, and a* **measure** *is how data will be pulled from the assessment method. Include both a direct and indirect assessment method and measurement for each learning outcome. Competencies and the learning outcomes need to reflect higher level learning: consider using verbs from the Application, Analysis, Synthesis, and Evaluation columns from this list when writing learning outcomes:* https://arizona.app.box.com/s/orx6coex8607hlmenrgl7dznhzjicpit. *We recommend 3-5 Learning Outcomes for a degree program.*

Curriculum Map

	RESI 501	RESI 502	RESI 505	RESI 598a	RESI 598b	RESI 598c	RESI 600	RESI 601/611/621	RESI 602/612/622
LO #1: Students will evaluate and summarize environmental information from diverse sources to discern best available information for resilience decision-making.	I,R	R	R	R	M			R	R
LO #2: Students will practice collaborative leadership strategies to promote inclusive and equitable planning and management.	I,R	R	R	R	R		M		R
LO #3: Students will design feasible and appropriate environmental resilience and adaptation projects, including plans for the implementation, management, monitoring and evaluation.		I,R		R	R		R	R	M
LO #4: Students will effectively communicate concepts of climate change, adaptation, and resilience related to environmental and human systems, to explain the methods, outcomes, and impacts of a resilience strategy.	I		R		R	M	R		R
LO #5: Students will demonstrate and apply knowledge of professional sectors and career pathways related to environmental and community resilience, sustainability, and adaptation.	I		R	R	R		R	M	

Explanation: The curriculum map lists the required courses for the program and indicates where each LO will be introduced (I), reinforced (R), and mastered (M). This is important to show that you are including adequate teaching of the skills and concepts to support the LOs. Each row (LO) should have at least one I, R, and M in it. Usually (but not always) there is more than one R. Usually (but not always) there is only one I and one M. Generally, Is come first, followed by Rs, and Ms are last. Each column (class) should have at least one letter in it, but not every box needs to be filled in

VII.   **PROGRAM ASSESSMENT PLAN-** using the table below, provide a schedule for program evaluation 1) while students are in the program and 2) after completion of the major. Add rows as needed. Delete <mark>EXAMPLE</mark> rows.

Assessment Measure	Source(s) of Evidence	Data Collection Point(s)
Program Pre-post survey	Student Survey responses	In the first semester and at graduation
Graduate Career Destinations	Alumni Survey	Annually for alumni starting one year post graduation
Capstone Experience Survey	Students and Capstone partners	After the completion of each student capstone project
Annual Academic Program Review (APR)	Program quality, student learning outcomes	Annually in spring
Periodic Institute Review for AIR	Program success and sustainability measures, included in broader Institute review for AIR	Approximately every 7 years, as required by Research, Innovation and Impact (RII)

VIII.   **ANTICIPATED STUDENT ENROLLMENT**-complete the table below. What concrete evidence/data was used to arrive at the numbers?

5-YEAR PROJECTED ANNUAL ENROLLMENT					
	1st Year	2nd Year	3rd Year	4th Year	5th Year
Number of Students	30 15 Main Campus (MC) and 15 AZ Online (AZO)	70 35 MC (20 new, 15 continuing) 35 AZO (20 new, 15 continuing)	90 45 MC (25 new, 20 continuing) 45 AZO (25 new, 20 continuing)	110 55 MC (30 new, 25 continuing) 55 AZO (30 new, 24 continuing)	130 65 MC (35 new, 30 continuing) 65 AZO (35 new, 30 continuing)

Data/evidence used to determine projected enrollment numbers:

This masters program design has been inspired by other successful environmental professional masters programs, described below, which regularly enroll over 100 students. Our strategy to reach target enrollment includes hiring a Program Coordinator whose role would include marketing and recruitment, and budgeting annual funds to run digital marketing campaigns for this program.

Peer Program	Current total enrollment	Job placement rate*
University of Colorado, Boulder Master of the Environment (MENV) *In person*	203	90%
University of Michigan, MS in Environment and Sustainability (MS) *In person*	115	89%
Arizona State University, Master of Sustainability Leadership (MSL) *Online*	103	96%

*Data from most recent alumni survey; does not include students pursuing further studies.

IX. **ANTICIPATED DEGREES AWARDED**- complete the table below, beginning with the first year in which degrees will be awarded. How did you arrive at these numbers? Take into consideration departmental retention rates. Use National Center for Education Statistics College Navigator to find program completion information of peer institutions offering the same or a similar program.

PROJECTED DEGREES AWARDED ANNUALLY					
	1st Year	2nd Year	3rd Year	4th Year	5th Year
Number of Degrees	0	21	33	41	49

Above table assumes degrees from both Main Campus and Arizona Online programs.

Data/evidence used to determine number of anticipated degrees awarded annually: Based on a UAIR Analytics Dashboard query of students in masters degree programs in the Colleges of Science, Social and Behavioral Sciences, and Agriculture, Life and Environmental Sciences who started during Fall 2017-Fall 2020, the two year completion rate was 70.9% and the three year completion rate was 84.7%.

X. **SUPPORT FACULTY/STAFF** – please list name, title, and email for applicable positions below.

Lead Academic Advisor: Faculty to be hired, AIR
Director of Graduate Studies: Leona Davis, AIR / Amy Kimme-Hea, SBS
Graduate Coordinator: Staff to be hired, AIR

ADDITIONAL INFORMATION FORM
To be used once preliminary proposal has been approved

Appendix A. Minor or Master's Requirements. Complete if requesting a corresponding minor/master's.

N/A - Not requesting a corresponding minor.

Appendix B. Emphasis Print Information-if applicable, complete the table below to indicate if proposed emphases should be printed on transcript and diploma. Add rows as needed. Note: emphases are displayed on transcript and diplomas as " _____ Emphasis".

Emphasis	Print on transcript	Print on diploma
Climate Adaptation and Mitigation	Yes	Yes
International Development	Yes	Yes
Water Conservation and Adaptation	Yes	Yes

THE UNIVERSITY OF ARIZONA

BUDGET PROJECTION FORM

Name of Proposed Program or Unit: Master of Science in Resilience Practice (Main Campus and AZ Online)

Budget Contact Person: Leona Davis, leonafdavis@arizona.edu	Projected				Target enrollment
	1st Year 2025 - 2026	**2nd Year** 2026 - 2027	**3nd Year** 2027 - 2028	**4th Year** 2028 - 2029	**5th Year** 2029 - 2030
METRICS					
Net increase in annual college enrollment UG					
Net increase in college SCH UG					
Net increase in annual college enrollment Grad	30	70	90	110	130
Net increase in college SCH Grad	600	1,790	2,710	3,370	4,030
Number of enrollments being charged a Program Fee					
New Sponsored Activity (MTDC)					
Number of Faculty FTE	2	2	2	2	2
FUNDING SOURCES					
Continuing Sources					
UG Revenue					
Grad Revenue	-	-	-	-	-
Program Fee Revenue (net of revenue sharing)					
F and A Revenues					
Reallocation from existing College funds (attach description)					
Other Items (attach description)					
Total Continuing	$ -	$ -	$ -	$ -	$ -
One-time Sources					
College fund balances					
Institutional Strategic Investment	153,019	-			
Gift Funding					
Other Items (attach description)					
Total One-time	$ 153,019	$ -	$ -	$ -	$ -
TOTAL SOURCES	$ 153,019	$ -	$ -	$ -	$ -
EXPENDITURE ITEMS					
Continuing Expenditures - AIR					
Faculty	160,000	163,200	166,464	169,793	173,189.15
Other Personnel (advisors, program directors, etc.)	212,500	333,750	339,285	344,931	350,576
Employee Related Expense	118,828	140,344	143,151	146,014	148,898
Graduate Assistantships	-				
Other Graduate Aid	-				
Operations (materials, supplies, phones, etc.)	15,000	16,000	16,000	16,000	16,000
Additional Space Cost	20,000	20,000	20,000	20000	20000
Other Items (attach description)	50,525	52,025	52,025	52,025	52,025
Total Continuing AIR	$ 576,853	$ 725,319	$ 736,925	$ 748,763	$ 760,689
Continuing Expenditures - SBS					
Other Personnel (advisors, program directors, etc.)	68,250	91,000	113,750	136,500	159,250
Employee Related Expense	21,772	29,029	36,286	43,544	50,801
Total Continuing SBS	$ 90,022	$ 120,029	$ 150,036	$ 180,044	$ 210,051
One-time Expenditures					
Construction or Renovation					
Start-up Equipment					
Replace Equipment					
Library Resources					
Other Items (attach description)					
Total One-time	$ -	$ -	$ -	$ -	$ -
TOTAL EXPENDITURES	$ 666,874	$ 845,348	$ 886,961	$ 928,806	$ 970,740
Net Projected Fiscal Effect	$ (513,855)	$ (845,348)	$ (886,961)	$ (928,806)	$ (970,740)

	Yr 1	Yr 2	Yr 3	Yr 4	Y5 and Target
MC Certificate students enrolled	0				
AZO Certificate students enrolled	0				
MC MS students	15	20	25	30	35
AZO MS students	15	20	25	30	35
Estimated MS degrees awarded	0	21	33	41	49

MS PROGRAM YEAR ONE

	Yr 1	Yr 2	Yr 3	Yr 4	Y5 and Target
Fall -MS - 7 units	$0	$0	$0	$0	$0
Spring -MS - 8 units (7 unit tuition cap	$0	$0	$0	$0	$0
Summer - MS - 5 units -- Tuition Cost per SCH - Fall 2024	$0	$0	$0	$0	$0

MS PROGRAM YEAR TWO -- MC Resident $1053(capped at 7 units)

	Yr 1	Yr 2	Yr 3	Yr 4	Y5 and Target
Fall -MS - 6 units -- AZ Online Resident $750 estimate		$0	$0	$0	$0
Spring -MS - 7 units -- MC Non-Res $1,794		$0	$0	$0	$0

GRADUATE CERTIFICATE (1 YR)

	Yr 1	Yr 2	Yr 3	Yr 4	Y5 and Target
Fall -Cert - 3 units -- *Scenario planning assumes students are Fall start/ summer capstone	$0	$0	$0	$0	$0
Spring -Cert - 6 units	$0	$0	$0	$0	$0

	Yr 1	Yr 2	Yr 3	Yr 4	Y5 and Target
Total Revenue	$0	$0	$0	$0	$0

	Yr 1	Yr 2	Yr 3	Yr 4	Y5 and Target
AIR Program Expenses	$585,853	$725,319	$736,925	$748,763	$760,689
SBS Program Expenses	$90,022	$120,029	$150,036	$180,044	$210,051
Total Expenses	$675,874	$845,348	$886,961	$928,806	$970,740
Net revenue/shortfall	**-$675,874**	**-$845,348**	**-$886,961**	**-$928,806**	**-$970,740**

Key:
Cohort #1
Cohort #2
Cohort #3
Cohort #4
Cohort #5

Year 1 (FY26):

AIR	Salary	ERE @ 31.9%	Total
Director: 1 FTE	$ 115,000	$ 36,685	$ 151,685
Programs Coordinator (full time)	$60,000	$19,140	$79,140
Associate Professor of Practice A (full time): $90,000	$90,000	$28,710	$118,710
Assistant Professor of Practice B (full time): $70,000	$70,000	$22,330	$92,330
Capstone Planning Lab co-instructors (three 2-credit courses)	$1,000	9	$9,000
AIR Staff (providing communications, IT, administrative support): $50,000	$37,500	$11,963	$49,463
AIR Staff Subtotal			**$500,328**
NPSMA affiliation annual fee			$525
Marketing			$50,000
Equipment: $15,000			$15,000
Facilities: $20,000			$20,000
Facilities/Equip Subtotal			**$85,525**
Year 1 Total			**$585,853**
Faculty	$160,000	$51,040	
Staff	$212,500	$67,788	

Year 2: Additional	Compensation	# instructors/ ERE	
Adjunct Instructors (six 3-credit courses)	$8,000	6	$48,000
Capstone Coordinator and Career Advisor	$60,000	$19,140	$79,140
2% salary increases - Year 1 faculty	$ 3,200	$ 1,020.800	$ 4,221
2% salary increases - Year 1 staff	$ 4,250	$ 1,355.750	$ 5,606
Staff Subtotal			**$136,967**
Guest speaker honorariums	$100 x15		$1,500
Capstone Showcase event expenses	$ 1,000		$1,000
Other subtotal			**$2,500**
Year 2 Total			**$725,319**

Year 3 Additional	Salary addition	ERE	Total
2% salary increases - faculty	$3,264	$1,041	$4,305
2% salary increases - staff	$5,535	$1,766	$7,301
Year 3 Total			**$736,925**

Year 4 Additional			
2% salary increases - faculty	$3,329	$1,062	$4,391
2% salary increases - staff	$5,646	$1,801	$7,447
Year 4 Total			**$748,763**

Year 5 Additional			
2% salary increases - faculty	$3,396	$1,083	$4,479
2% salary increases - staff	$5,646	$1,801	$7,447
Year 5 Total			**$760,689**

Year 1 (FY26):

SBS	Salary	ERE @ 31.9%	Total
Administrativ e, business,	$68,250	$21,772	$90,022

SBS Staff Subtotal $90,022

Year 2-5 Additional (per 10 additional full time students)

SBS	Salary	ERE @ 31.9%	Total
Administrativ e, business,	$22,750	$7,257	$30,007

SBS Staff Subtotal $30,007

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I. **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V. **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☒   **No**☐   **Conditionally**☐: *Under what conditions?*
2. Course #2   **Yes** ☒   **No**☐   **Conditionally**☐: *Under what conditions?*
3. Course #3   **Yes** ☒   **No**☐   **Conditionally**☐: *Under what conditions?*
4. Course #4   **Yes** ☒   **No**☐   **Conditionally**☐: *Under what conditions?*
5. Course #5   **Yes** ☒   **No**☐   **Conditionally**☐: *Under what conditions?*
6. Course #6   **Yes** ☒   **No**☐   **Conditionally**☐: *Under what conditions?*

<mark>*Moved the options above to the table below for ease of use.</mark>

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
ALC509 Team and	3	Elective	x		

Organizational Leadership					
ALC510 Community Innovation and Entrepreneurial Leadership	3	Elective	x		
ALC511 Principles and Applications of Organizational Innovation	3	Elective	x		
ALC522 Communicating Knowledge in Agriculture and the Life Science	3	Elective	x		
ALC555 Business Creation in Agriculture and Life Sciences	3	Elective	x		
AREC512 Development Economics	3	Elective	x		

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
ALC509	3	0-1	1	1-2
ALC510	3	0-1	1	1-2
ALC511	3	0-1	1	1-2
ALC522	3	0-1	1	1-2
ALC555	3	0-1	1	1-2
AREC512	3	0-1	1	1-2

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X.   **Representative(s) reviewing request:** Michael Staten, Associate Dean, CALES

Signature: _____   Date: February 9, 2024

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I. **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V. **Courses planned to be included, belonging to college / departments:** See attached list.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☒   **No**☐   **Conditionally**☐ : *Under what conditions?*
2. Course #2   **Yes** ☒   **No**☐   **Conditionally**☐ : *Under what conditions?*
3. Course #3   **Yes** ☒   **No**☐   **Conditionally**☐ : *Under what conditions?*
4. Course #4   **Yes** ☒   **No**☐   **Conditionally**☐ : *Under what conditions?*
5. Course #5   **Yes** ☐   **No**☐   **Conditionally**☐ : *Under what conditions?*

<mark>*Moved the options above to the table below for ease of use.</mark>

VI. Parameters of Use (add rows as necessary):

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
ARC 561K	3	Elective	X		
ARC561L	3	Elective	X		
ARC561M	3	Elective	X		
ARC561N	3	Elective	X		

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course Use/Collaboration/Concern Form

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
ARC 561K	3	0-1	1	1
ARC561L	3	0-1	1	1
ARC561M	3	0-1	1	1
ARC561N	3	0-1	1	1

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: *Laura H. Hollengreen*　　Date: ____02/22/2024_____

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I.   **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V.   **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☐   **No** ☐   **Conditionally** ☐: *Under what conditions?*
2. Course #2   **Yes** ☐   **No** ☐   **Conditionally** ☐: *Under what conditions?*
3. Course #3   **Yes** ☐   **No** ☐   **Conditionally** ☐: *Under what conditions?*
4. Course #4   **Yes** ☐   **No** ☐   **Conditionally** ☐: *Under what conditions?*
5. Course #5   **Yes** ☐   **No** ☐   **Conditionally** ☐: *Under what conditions?*

<mark>*Moved the options above to the table below for ease of use.</mark>

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
PLG 502	3	Elective	X		
PLG 501A	3	Elective	X		
PLG 508	3	Elective	X		
PLG 569	3	Elective	X		
PLG 573	3	Elective	X		

PLG572	3	Elective	X		
PLG597S	3	Elective	X		
LAR565	3	Elective	X		
LAR549	3	Elective	X		

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
PLG502	3	0-1	1	1-2
PLG 501a	3	0-1	1	1-2
PLG508	3	0-1	1	1-2
PLG569	3	0-1	1	1-2
PLG 573	3	0-1	1	1-2
PLG572	3	0-1	1	1-2
PLG597S	3	0-1	1	1-2
LAR565	3	0-1	1	1-2
LAR549	3	0-1	1	1-2

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: *Laura H. Hollengreen*   Date: February 17, 2024

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I.   **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V.   **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
2. Course #2   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
3. Course #3   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
4. Course #4   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
5. Course #5   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*

==*Moved the options above to the table below for ease of use.==

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
RNR503	3	Elective	X		
RNR517	3	Elective	X		
RNR519	3	Elective	X		
RNR520	3	Elective	X		
RNR522	3	Elective	X		
RNR529	3	Elective	X		

RNR533	3	Elective	X		
RNR535	3	Elective	X		
RNR540	3	Elective	X		
RNR558	3	Elective	X		
RNR573	3	Elective	X		
RNR585	3	Elective	X		
RNR595F	3	Elective	X		
RNR595G	3	Elective	X		
RNR615	3	Elective	X		
RNR621	3	Elective	X		
WSM552	4	Elective	X		
WSM562	4	Elective	X		
WFSC571	3	Elective	X		

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
RNR503	3	0-1	1	1-2
RNR517	3	0-1	1	1-2
RNR519	3	0-1	1	1-2
RNR520	3	0-1	1	1-2
RNR522	3	0-1	1	1-2
RNR529	3	0-1	1	1-2
RNR533	3	0-1	1	1-2
RNR535	3	0-1	1	1-2
RNR540	3	0-1	1	1-2
RNR558	3	0-1	1	1-2
RNR573	3	0-1	1	1-2
RNR585	3	0-1	1	1-2
RNR595F	3	0-1	0-1	0-1
RNR595G	3	0-1	0-1	0-1
RNR615	3	0-1	1	1-2
RNR621	3	0-1	1	1-2
WSM552	4	0-1	1	1-2
WSM562	4	0-1	1	1-2
WFSC571	3	0-1	1	1-2

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):** Our School of Natural Resources and the Environment does have some concerns about potential overlap with their PSM in Water, Society and Policy. We think this warrants a broader discussion, perhaps at the G-CAAC level. For now, we are certainly willing to offer up the long list of courses above as electives to their proposed program.

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: _(signature)_   Date: February 15, 2024

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. <mark>Lack of response after the 10 business days is presumed approval.</mark>

FOR REQUESTING COLLEGE:

I. **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V. **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty, with SBS as the academic home. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☒   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
2. Course #2   **Yes** ☒   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
3. Course #3   **Yes** ☒   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
4. Course #4   **Yes** ☒   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
5. Course #5   **Yes** ☒   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*

<mark>*Moved the options above to the table below for ease of use.</mark>

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
HPS529	3	Elective			
HPS533	3	Elective			
HPS534	3	Elective			
HPS559	3	Elective			
BIOS576A	3	Elective			

BIOS670	3	Elective			
EHS518	3	Elective			

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
HPS529	3	0-1	1	1-2
HPS533	3	0-1	1	1-2
HPS534	3	0-1	1	1-2
HPS559	3	0-1	1	1-2
BIOS576A	3	0-1	1	1-2
BIOS670	3	0-1	1	1-2
EHS518	3	0-1	1	1-2

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

John Ehiri, PhD

Senior Associate Dean

Mel and Enid Zuckerman College of Public Health   02/05/2024

Signature: _____ Date: _____

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I. **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V. **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty with SBS as the academic home. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☒   **No**☐   **Conditionally**☐**:** *Under what conditions?*
2. Course #2   **Yes** ☒   **No**☐   **Conditionally**☐**:** *Under what conditions?*
3. Course #3   **Yes** ☒   **No**☐   **Conditionally**☐**:** *Under what conditions?*
4. Course #4   **Yes** ☒   **No**☐   **Conditionally**☐**:** *Under what conditions?*
5. Course #5   **Yes** ☒   **No**☐   **Conditionally**☐**:** *Under what conditions?*
6. Course #6   **Yes** ☒   **No**☐   **Conditionally**☐**:** *Under what conditions?*

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use (i.e., gen ed, major core, emphasis, elective/selective)
ARL565	3	Elective
ARL642	3	Elective
GC578	3	Elective
GC597A	3	Elective

EIS536	3	Elective	
EIS568	3	Elective	

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
ARL565	3	0-1	1	1
ARL642	3	0-1	1	1
GC578	3	0-1	1	1
GC597A	3	0-1	1	1
EIS536	3	0-1	1	1
EIS568	3	0-1	1	1

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Margaret J. Pitts, Sr. Associate Dean, Graduate College
mjpitts@arizona.edu

Signature: Date: 2/12/24

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I.   **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V.   **Courses planned to be included, belonging to college / departments:** All core courses of this program are new, and will be taught by AIR faculty with SBS as the academic home. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☒   **No** ☐   **Conditionally** ☐ **:** *Under what conditions?*
2. Course #2   **Yes** ☒   **No** ☐   **Conditionally** ☐ **:** *Under what conditions?*
3. Course #3   **Yes** ☒   **No** ☐   **Conditionally** ☐ **:** *Under what conditions?*
4. Course #4   **Yes** ☐   **No** ☐   **Conditionally** ☐ **:** *Under what conditions?*
5. Course #5   **Yes** ☐   **No** ☐   **Conditionally** ☐ **:** *Under what conditions?*

VI. **Parameters of Use (add rows as necessary):**

Undergraduate/Graduate

Course #	Units	Description of use (i.e., gen ed, major core, emphasis, elective/selective)
INFO510	3	Elective
INFO523	3	Elective
INFO526	3	Elective

VII. Expected Yearly Enrollment (add rows as necessary):

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
INFO510	3	0-1	1	1-2
INFO523	3	0-1	1	1-2
INFO526	3	0-1	1	1-2

VIII. Opportunities for Interdisciplinary Collaboration (leave blank if none):

IX. Concerns about Proposed Program (leave blank if none):

X. Representative(s) reviewing request: Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: _Catherine F. Brooks_____ Date: _02/08/2024_____

Course Use Collaboration Forms were sent to all colleges/departments with courses listed as electives in the proposed MS in Resilience. Many of the requests did not receive responses within ten days, so according to the form they are presumably approved. Below is an inventory of the contacts and dates that colleges/departments were contacted for signature. All requests were sent via email.

Department/College	Contact(s)	Date of Request
College of Science	Jeremiah Hackett, *Associate Dean, Graduate and Postdoctoral Affairs*	Initial Email: February 7th Reminder: February 20th
Law (LAW) **See update below**	Jason Kreag, Associate Dean Karen Kowalski, Associate Dean	Initial Email: January 25th Reminder: January 31st & February 9th
Chemical and Environmental Engineering (BE & CHEE)	Kimberly Ogden, Department Chair Kelly Potter, Associate Dean Murat Kacira, Interim Head	Initial Email: February 1st Reminder: February 12th

All communication and attached collaboration forms are attached to this document.

Update 11/4/24: Please disregard communications related to LAW courses. These have since been removed from the list of possible electives.

Re: Signature requested - HAS courses as electives in new MS program

Davis, Leona - (leonafdavis) <leonafdavis@arizona.edu>

Tue 2/20/2024 10:09 AM

To:Hackett, Jeremiah D - (hackettj) <hackettj@arizona.edu>
Cc:Castro, Christopher L - (clcastro) <clcastro@arizona.edu>;Ferre, Paul A - (tyferre) <tyferre@arizona.edu>

📎 1 attachments (75 KB)
HAS_Course Use Collaboration Form.docx;

Hi Jeremiah,
I wanted to bring this request below back to the top of your inbox. We are requesting the use of HAS courses as electives in a proposal we are putting forth for a MS in Resilience Practice, in partnership with SBS as the academic home. These would be among about 50 total electives, as the vision is a very interdisciplinary program, so we do not expect significant increases in enrollment for any of these courses due to including them here.

I have already been in touch with Chris and Ty to get permission at the department level, and we just need your signature as Associate Dean for Graduate Affairs in College of Science. Please let me know if you have any questions.
Thanks,
Leona

From: Davis, Leona - (leonafdavis)
Sent: Wednesday, February 7, 2024 4:07 PM
To: Hackett, Jeremiah D - (hackettj) <hackettj@arizona.edu>
Cc: Castro, Christopher L - (clcastro) <clcastro@arizona.edu>; Ferre, Paul A - (tyferre) <tyferre@arizona.edu>
Subject: Signature requested - HAS courses as electives in new MS program

Hi Dr. Hackett,
I am writing to ask for your signature on the attached form, in your role as Associate Dean for Graduate Affairs in College of Science, which requests the use of three HWRS graduate courses as electives in a new masters program we are proposing (MS in Resilience Practice), administered by Arizona Institute for Resilience with SBS as the academic home. I have already floated this request to Chris Castro and Ty Ferre in HAS, copied here, who have given their permission to use the courses listed on this form.

We would like to request your signature (electronic/typed signature OK) at your convenience. Please let me know if you have any questions.

Thank you,
Leona

Leona Davis (she, her)
Associate Director of Professional Education
[Arizona Institute for Resilience](#) | The University of Arizona
Office: ENR2 N514 | Office Phone: 520-621-8465
The University of Arizona is located on Tohono O'odham homelands and lands of the Pascua Yaqui tribe.

Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I.   **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V.   **Courses planned to be included, belonging to college / departments:** All core courses of this program are new, and will be taught by AIR faculty with SBS as the academic home. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
2. Course #2   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
3. Course #3   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
4. Course #4   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*
5. Course #5   **Yes ☐   No☐   Conditionally☐:** *Under what conditions?*

VI. **Parameters of Use (add rows as necessary):**

Undergraduate/Graduate

Course #	Units	Description of use (i.e., gen ed, major core, emphasis, elective/selective)
HWRS543	3	*Elective*
HWRS573	3	*Elective*
HWRS577	3	*Elective*

Course Use/Collaboration/Concern Form

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
HWRS543	3	0-1	1	1
HWRS573	3	0-1	1	1
HWRS577	3	0-1	1	1

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: _____ Date: _____

From:	Davis, Leona - (leonafdavis)
To:	Kreag, Jason - (jkreag); Kowalski, Karen M - (kkowalski)
Subject:	Re: Request to include Law courses as electives in new program proposal
Date:	Friday, February 9, 2024 1:12:38 PM
Attachments:	LAW_Course Use Collaboration Form.docx

Good afternoon Jason and Karen,

I just wanted to bring this email back to the top of your inbox, as we are finalizing our MS program proposal. If you are willing to allow the LAW courses listed to be used as electives in a new academic program, please sign and return. If not, please just let me know and I won't continue to bug you. If this request should be directed to someone else, please let me know or feel free to forward.

Thank you,
Leona

Leona Davis (she, her)
Associate Director of Professional Education
Arizona Institute for Resilience | The University of Arizona
Office: ENR2 N514 | Office Phone: 520-621-8465
The University of Arizona is located on Tohono O'odham homelands and lands of the Pascua Yaqui tribe.

From: Davis, Leona - (leonafdavis) <leonafdavis@arizona.edu>
Sent: Wednesday, January 31, 2024 11:13 AM
To: Kreag, Jason - (jkreag) <jkreag@arizona.edu>; Blair, Mark L - (mlmb) <mlmb@arizona.edu>
Subject: Re: Request to include Law courses as electives in new program proposal

Hi Dr. Kreag and Dr. Blair,

Apologies for the multiple emails- I learned this week of the necessary form for requesting formal permission to use other departments' courses in new academic programs. That form is attached, and includes the same courses listed in my original email below.

Please complete this form indicating permission or not for each course listed, and with Associate Dean Kreag's signature. If you do not wish to permit students from an outside program in any of these courses, you are welcome to just give that response and no need to complete the form.

Thanks so much for your consideration of the use of these courses, and for your support in this administrative step in the process. Let me know if you have any questions.
Best, Leona

Leona Davis (she, her)
Associate Director of Professional Education
[Arizona Institute for Resilience](#) | The University of Arizona
Office: ENR2 N514 | Office Phone: 520-621-8465
The University of Arizona is located on Tohono O'odham homelands and lands of the Pascua Yaqui tribe.

From: Davis, Leona - (leonafdavis)
Sent: Thursday, January 25, 2024 10:17 AM
To: Kreag, Jason - (jkreag) <jkreag@arizona.edu>; Blair, Mark L - (mlmb) <mlmb@arizona.edu>
Subject: Request to include Law courses as electives in new program proposal

Hi Dr. Kreag and Dr. Blair,
My name is Leona Davis and I work with [Arizona Institute for Resilience](#) (AIR) on campus. I'm writing to you because we are submitting a proposal for a new professional masters program in Resilience Practice, to prepare students for careers in environmental and community resilience, adaptation, and sustainability. This proposed program would be managed/taught by our AIR faculty with SBS as the academic home, and would offer emphasis areas in International Development, Climate Adaptation and Mitigation, and Water Adaptation and Conservation. If our proposal is successful, this program would start in Fall 2025 on Main Campus, and we would start an Arizona Online version the following year.

We are interested to offer any/all of the Law courses included in the MLS - Environmental Law emphasis listed below, as electives within this program, with your permission. These would be among 30-40 total elective courses offered, and we are aiming to enroll 30-40 students per cohort, so would not expect more than a few additional students per course per year as a result of offering these electives.

- LAW 519* - The Ethics & Economics of Environmental Policy
- LAW 545 - Applied Environmental Law
- LAW 559* - Public International Environmental Law
- LAW 603J - Sustainability and Environmental Policy
- LAW 625B - American Legal History (The Colorado River)
- LAW 627 - Oil and Gas Law
- LAW 640* - Mining and Public Land Law
- LAW 641 - Water Law
- LAW 643D* - Native American Natural Resources
- LAW 696I* - International Environmental Law

Permission is required by ABOR for us to include electives in our program proposal. If someone else in the Law College is better positioned to grant this permission, please feel free to forward this email.

Additionally, if there are any other courses that you would recommend as relevant electives, feel free to suggest them. If you would like to learn more about this program or have other ideas about collaboration, I'm always happy to talk.

Thank you,
Leona

Leona Davis (she, her)
Associate Director of Professional Education
[Arizona Institute for Resilience](#) | The University of Arizona
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Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. Lack of response after the 10 business days is presumed approval.

FOR REQUESTING COLLEGE:

I. **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V. **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty, with SBS as the academic home. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☐   **No** ☐   **Conditionally** ☐ : *Under what conditions?*
2. Course #2   **Yes** ☐   **No** ☐   **Conditionally** ☐ : *Under what conditions?*
3. Course #3   **Yes** ☐   **No** ☐   **Conditionally** ☐ : *Under what conditions?*
4. Course #4   **Yes** ☐   **No** ☐   **Conditionally** ☐ : *Under what conditions?*
5. Course #5   **Yes** ☐   **No** ☐   **Conditionally** ☐ : *Under what conditions?*

<mark>*Moved the options above to the table below for ease of use.</mark>

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
LAW 519 - The Ethics & Economics of Environmental Policy	3	Elective			
LAW 545 - Applied Environmental Law	3	Elective			

LAW 559 - Public International Environmental Law	3	Elective			
LAW 603J - Sustainability and Environmental Policy	3	Elective			
LAW 625B - American Legal History (The Colorado River)	3	Elective			
LAW 627 - Oil and Gas Law	3	Elective			
LAW 640 - Mining and Public Land Law	3	Elective			
LAW 641 - Water Law	3	Elective			
LAW 643D - Native American Natural Resources	3	Elective			
LAW 696I - International Environmental Law	3	Elective			

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
LAW 519	3	0-1	**1**	**1-2**
LAW 545	3	0-1	**1**	**1-2**
LAW 559	3	0-1	**1**	**1-2**
LAW 603J	3	0-1	**1**	**1-2**
LAW 625B	3	0-1	**1**	**1-2**
LAW 627	3	0-1	**1**	**1-2**
LAW 640	3	0-1	**1**	**1-2**
LAW 641	3	0-1	**1**	**1-2**
LAW 643D	3	0-1	**1**	**1-2**
LAW 696I	3	0-1	**1**	**1-2**

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: _____ Date: _____

From:	Davis, Leona - (leonafdavis)
To:	Ogden, Kimberly L - (ogden); Potter, Kelly - (kspotter)
Cc:	Kacira, Murat - (mkacira)
Subject:	RE: Request to use BE and CHEE courses as electives in new MS program
Date:	Monday, February 12, 2024 10:57:00 AM
Attachments:	BE_CHEE_Course Use Collaboration Form.docx

Hi Kim and all,

I wanted to circle back to this request and see if you were able to get feedback from faculty. Murat replied separately and suggested a few additional relevant BE courses, so I am attaching a revised version of this form with those additions. If you would be able to reply by the end of this week, I would appreciate it.

Thanks for your consideration, and please reach out with any questions.
Leona

Leona Davis (she, her)
Associate Director of Professional Education
Arizona Institute for Resilience | The University of Arizona
Office: ENR2 N514 | Office Phone: 520-621-8465
The University of Arizona is located on Tohono O'odham homelands and lands of the Pascua Yaqui tribe.

From: Davis, Leona - (leonafdavis) <leonafdavis@arizona.edu>
Sent: Thursday, February 1, 2024 11:45 AM
To: Ogden, Kimberly L - (ogden) <ogden@arizona.edu>; Potter, Kelly - (kspotter) <kspotter@arizona.edu>; Kacira, Murat - (mkacira) <mkacira@arizona.edu>
Subject: Re: Request to use BE and CHEE courses as electives in new MS program

Thank you, I appreciate it!

Best, Leona

From: Ogden, Kimberly L - (ogden) <ogden@arizona.edu>
Sent: Thursday, February 1, 2024 11:43 AM
To: Davis, Leona - (leonafdavis) <leonafdavis@arizona.edu>; Potter, Kelly - (kspotter) <kspotter@arizona.edu>; Kacira, Murat - (mkacira) <mkacira@arizona.edu>
Subject: RE: Request to use BE and CHEE courses as electives in new MS program

I forwarded to our faculty for input

Kimberly Ogden
Professor and Chair
Chemical and Environmental Engineering
University of Arizona
Tucson, AZ 85721

From: Davis, Leona - (leonafdavis) <leonafdavis@arizona.edu>
Sent: Thursday, February 1, 2024 11:01 AM
To: Potter, Kelly - (kspotter) <kspotter@arizona.edu>; Ogden, Kimberly L - (ogden) <ogden@arizona.edu>; Kacira, Murat - (mkacira) <mkacira@arizona.edu>
Subject: Request to use BE and CHEE courses as electives in new MS program

Hi Associate Dean Potter, Dr. Ogden, and Dr. Murat,
This is Leona Davis with Arizona Institute for Resilience (AIR), nice to e-meet you. I'm writing to you because we are putting forth a proposal for a new professional masters program in Resilience Practice, to prepare students for careers in environmental and community resilience, climate adaptation, and sustainability, and interested to include some grad BE and CHEE courses among our elective offerings in this interdisciplinary program, with your permission. These courses would be especially relevant for students in the Water Adaptation and Conservation emphasis of our proposed program. If our proposal is successful, this program would start in Fall 2025 on Main Campus, and we would start an Arizona Online version the following year.

The attached form is required for granting this permission, and required to be signed by the Dean or Associate Dean. If all courses are restricted to students in your programs, feel free to give that response via email and there is no need to complete the form. Please share this request with any others in your units who may need to review.

Thank you all for your consideration, and please let me know if you have any questions.
Best,
Leona

Leona Davis (she, her)

Associate Director of Professional Education

Arizona Institute for Resilience | The University of Arizona

Office: ENR2 N514 | Office Phone: 520-621-8465

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Course Use/Collaboration/Concern Form

Please use this form to notify other colleges that your proposed new program intends to use course(s) under their ownership; has identified potential avenues for interdisciplinary collaboration; and/or wants to hear their concerns about the creation of this program.

Note: Requesting college should provide this request to leadership in unit who owns courses. Responding unit should respond within 10 business days from receipt. <mark>Lack of response after the 10 business days is presumed approval.</mark>

FOR REQUESTING COLLEGE:

I. **Initiating College:** College of Social and Behavioral Sciences (academic home), in partnership with Arizona Institute for Resilience (AIR)

II. **Representative(s) making the request:** Leona Davis, AIR Associate Director of Professional Education

III. **Planned proposed program:** MS in Resilience Practice

IV. **Planned program start date:** Fall 2025

V. **Courses planned to be included, belonging to college / departments:** All required courses of this program are new (not yet in the catalog), and will be taught by AIR faculty with SBS as the academic home. We are currently compiling our list of electives from other departments.

FOR REVIEWING COLLEGE:

1. Course #1   **Yes** ☐   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
2. Course #2   **Yes** ☐   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
3. Course #3   **Yes** ☐   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
4. Course #4   **Yes** ☐   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*
5. Course #5   **Yes** ☐   **No** ☐   **Conditionally** ☐**:** *Under what conditions?*

<mark>*Moved the options above to the table below for ease of use.</mark>

VI. **Parameters of Use (add rows as necessary):**

Graduate

Course #	Units	Description of use	Yes	No	Conditionally- under what conditions?
BE513 Applied Biostatistics	3	Elective			
BE523 Biosystems Analysis and Design	3	Elective			

BE526 Watershed Engineering	3	Elective			
BE528 Control of Erosion Processes	3	Elective			
BE544 Aquaponics Engineering	3	Elective			
BE555 Soil and Water Resources Engineering	3	Elective			
BE556 Irrigation Systems Design	3	Elective			
BE558 Wastewater Treatment Operations and Reuse	3	Elective			
BE579 Applied Instrumentation for Controlled Environment Agriculture	3	Elective			
BE Controlled Environment Systems	3	Elective			
CHEE525 Emerging Systems in Water Quality	3	Elective			
CHEE575 Water Treatment System Design	3	Elective			
CHEE576 Wastewater Treatment System Design	3	Elective			
CHEE582 Analysis of Emerging Environmental Contaminants	3	Elective			

VII. **Expected Yearly Enrollment (add rows as necessary):**

Course #	Units	Exp Enrollment for Yr 1	Exp Enrollment for Yr 2	Exp Enrollment for Yr 3
BE513	3	0-1	1	1-2
BE523	3	0-1	1	1-2
BE526	3	0-1	1	1-2
BE528	3	0-1	1	1-2
BE544	3	0-1	1	1-2
BE555	3	0-1	1	1-2
BE556	3	0-1	1	1-2
BE558	3	0-1	1	1-2
BE579	3	0-1	1	1-2
BE583	3	0-1	1	1-2

Course Use/Collaboration/Concern Form

CHEE525	3	0-1	1	1-2
CHEE575	3	0-1	1	1-2
CHEE576	3	0-1	1	1-2
CHEE582	3	0-1	1	1-2

VIII. **Opportunities for Interdisciplinary Collaboration (leave blank if none):**

IX. **Concerns about Proposed Program (leave blank if none):**

X. **Representative(s) reviewing request:** Who is representative reviewing the request? (Should be Associate Dean / Dean)

Signature: _____ Date: _____

CALEB SIMMONS, PHD
EXECUTIVE DIRECTOR,
ONLINE EDUCATION

The Refinery
1600 E. Idea Lane
Tucson, AZ 85713
Ofc 520-621-3772

July 17, 2024

Subject: Arizona Online Support for the Resilience Practice MS and Certificates

I am writing in support of the Master of Science in Resilience Practice program and certificates: Water Conservation & Adaptation; Climate Adaptation & Mitigation; and International Development & Resilience. This strategic initiative is a timely response to the dynamic shifts in higher education and addresses the evolving needs of our student body and the broader workforce.

Our analysis indicates that the Resilience Practice MS and certificates are poised to be significant and valuable additions to our existing academic offerings. Historical market trends and current demands in this field underscore the relevance and potential success of this program. The introduction of this degree and certificates is expected to draw a diverse group of motivated students, keen on expanding their expertise and competencies in this critical area of study.

Moreover, the online delivery model of this program is particularly suited to meet the needs of post-traditional learners. It offers unparalleled flexibility, allowing students to balance their educational pursuits with personal and professional commitments. By providing an accessible and adaptable learning environment, we are enabling these learners to achieve their educational aspirations and career objectives more effectively.

To ensure the successful launch and sustainability of the Resilience Practice MS program and certificates, Arizona Online is committed to offering comprehensive support in both planning and implementation phases. This will include resources for curriculum development, marketing strategies, and student support services, ensuring that the program not only attracts but also retains a high caliber of students.

In conclusion, the introduction of the Resilience Practice MS program and certificates represents a strategic step forward for Arizona Online, aligning with our mission to provide high-quality, accessible education.

Sincerely

Caleb Simmons, Ph.D. MBA
Executive Director, Arizona Online

CUES Distinguished Fellow
Professor, Religious Studies

College of Social and Behavioral Sciences
Douglass 200 West, PO Box 210028
Tucson, AZ 85721
520-621-1112

February 15, 2024

Dear Curricular Affairs and Committees:

It is with enthusiasm that the College of Social and Behavioral Sciences supports the addition of the MS in Resilience Practice, as well as the certificate programs. This support includes housing the MS, certificates, and courses under the Social and Behavioral Sciences Admin academic department (0443). This support also includes approval for these academic plans to include elective courses from AIS, ANTH, LAS, GEOG, GIST, PA, HRTS, MENA, and COMM subjects.

For questions regarding this support, please contact Debbie Bamford at dfeehs@arizona.edu.

Sincerely,

Amy Kimme Hea
Associate Dean, Academic Affairs and Student Success

September 9, 2024

To: Arizona Board of Regents
From: Tim Born, Ph.D., President, National Professional STEM Master's Association
RE: Proposed PSM program in Resilience and Adaptation

Dear Members of the Arizona Board of Regents,

The Affiliation Committee for the National Professional STEM Master's Association (NPSMA) recently reviewed materials submitted for a proposed Masters program in Resilience at the University of Arizona. We have determined that the proposed program meets the requirements of a Professional Science Master's (PSM) program based on the submitted materials.

The program will need to form an industry advisory board once it has been formally approved by the Arizona Board of Regents, but all other criteria have been met. Therefore, I can inform you that the program in Resilience and Adaptation will be approved as a PSM program once it has been fully approved internally.

Please feel free to contact me if you have any questions about affiliation with the NPSMA or status as a PSM program.

Take care,

Timothy L. Born signature

Timothy L. Born, Ph.D.
Grand Valley State University
President, National Professional Science Master's Association
616-331-8643
bornti@gvsu.edu

Effective advocacy and services for PSM leaders
Goal 1: Grow stakeholder awareness and engagement with PSMs.
Goal 2: Provide compelling member benefits
Goal 3: Model effective operational practices.

CALEB SIMMONS, PHD, MBA
EXECUTIVE DIRECTOR,
ONLINE EDUCATION

The Refinery
1600 E. Idea Lane
Tucson, AZ 85713
Ofc 520-621-3772

May 15, 2024

To: Leona Davis

RE: Arizona Online Program Proposal

Thank you for your interest in launching your program, Resilience Practice MS + 3 graduate certificates (Water Adaptation and Conservation, Climate Adaptation and Mitigation, International Development and Resilience), via the Arizona Online campus.

Arizona Online has thoroughly evaluated your program proposal, data, and supporting documents. We are pleased to inform you that your program was selected for Arizona Online investment (development and marketing) with expected launch date of Fall 2025. *Please note that the investment will take place at the degree level, and the graduate certificates will be embedded within the development and marketing of the MS program.*

Summary of Committee's Findings:
This would be a new master's degree that would also produce three certificates - thus the market analysis reports contain different program names in the industry. Enrollment projections are based on research into similar programs that are in-person. Lightcast reports demonstrate notable increase in jobs related to sustainability. The number of master's degree completions related to Sustainability Studies grew 45% from 2018-2022. For the proposed graduate certificates and MS program emphases, Lightcast reports a 13.1% increase in jobs related to Water, Wetlands, and Marine Resources Management, a 6.6% increase in jobs related to International/Globalization Studies, and a 2.4% increase in jobs related to Environmental/Natural Resources Management and Policy. Funds are available to hire staff and faculty to manage this program. This proposed professional master's program supports the strategic goals of University of Arizona by providing robust student support both during the program and in transition to the workforce (Pillar 1: Wildcat Journey), training professionals equipped to work within complex environmental and social dynamics (Pillar 2: Grand Challenges), leveraging the unique learning opportunities of the Sonoran Desert, Tucson, and Arizona (Pillar 3: Arizona Advantage), expanding global reach through a fully online program and through international partners in the International Development and Resilience emphasis (Pillar 4: Arizona Global), and optimizing the many opportunities and efforts of the University through interdisciplinary collaboration (Pillar 5: Institutional Excellence). AZO investment is requested to develop 13 courses.

Rubric Scores:

Enrollment Projections	21/25
Faculty	18/20
Curriculum Map & Course Carousel	15/15
Student Success Initiatives	15/15
Mission Alignment	14/15
Development Budget	10/10

CALEB SIMMONS, PHD, MBA
EXECUTIVE DIRECTOR,
ONLINE EDUCATION

The Refinery
1600 E. Idea Lane
Tucson, AZ 85713
Ofc 520-621-3772

Here's what to expect in the coming weeks:

- You will meet with your Program Manager, Elena Chabolla, & College of Social and Behavioral Sciences to finalize the curriculum roll-out plan and online course development schedule for your program

- Memorandum of Agreement (MOA) will finalize Arizona Online's investment in your program

- As the planning process progresses, your Program Manager will connect you with additional Arizona Online resources including student recruitment, enrollment, marketing, and advising to help prepare your program for launch

Your Program Manager will be following-up with our Onboarding Checklist to provide you with an overview of the development process. If you have questions, please contact Neda or me.

We look forward to working with you and are excited to make your program available to our Online students.

Thank you and welcome to Arizona Online!

Cc:
Gary Packard, Interim Senior Vice Provost, Online Initiatives
Lori Poloni-Staudinger, Dean, College of Social and Behavioral Sciences
Amy Kimme Hea, Associate Dean, Academic Affairs and Student Success
Sharon Collinge, Department Head, AZ Institute for Resilience
Neda Fletcher, Assistant Director, Academic Programs & Strategic Initiatives

THE UNIVERSITY OF ARIZONA

School of Natural Resources and the Environment
College of Agriculture and Life Sciences

1064 E. Lowell St.
ENR2 Building
Tucson, AZ 85721
Telephone: (520) 621-7255
Fax (520) 621-8801
www.snre.arizona.edu

October 3, 2024

Arizona Board of Regents
2700 N. Central Ave., Suite 400
Phoenix, AZ 85004

To Whom It May Concern:

This letter is in support of the University of Arizona, Professional Science Masters (PSM) in Resilience Practice, Water Conservation and Adaptation specialization. The proposed program is administered by Arizona Institute for Resilience (AIR) in partnership with University of Arizona's College of Social and Behavioral Sciences as the academic home.

Background. I serve as the director of the University of Arizona's Water, Society & Policy (WSP) non-thesis Master's Degree Program, housed in the School of Natural Resources and the Environment. I am also AIR Director for Science Translation and Outreach.

I have reviewed the curriculum for the PSM in Resilience Practice, Water Conservation and Adaptation specialization. While students in the WSP degree program are certainly exposed to concepts like resilience and adaptation, and to water conservation practices, the niche that the PSM in Resilience Practice is aiming for with its Water Conservation and Adaptation specialization—one that caters to an emerging need for conservation managers in Arizona's cities and towns and that emphasizes the effects of climate change on water management practices—is distinct from the water policy niche that attracts students to the WSP program. Moreover, the core curriculum of the PSM in Resilience Practice, Water Conservation and Adaptation specialization steers clear of courses environmental and natural resource sciences, policy, law, and economics—which are the mainstays of the WSP core curriculum. Having both of these non-research thesis programs at the University of Arizona will provide mutual benefit to our water-related degree programs and enhance our abilities to attract the best and brightest students to learn ways to solve ongoing and emerging water issues in Arizona and the world. Consequently, I support the development and implementation of this program.

If you have questions or concerns, feel free to contact me at one of the numbers or addresses, below.

Sincerely,

Gregg M. Garfin, Professor and Extension Specialist
Office: 520-626-4372 Cell Phone: 520-591-9543
Email: gmgarfin@arizona.edu

NOTE: This is being added to the proposal after committees, including but not limited to Graduate Programs Executive Review (GPERC) and Graduate College Academic Administrator's Council (GCAAC) viewed and commented on the document. Below are their questions and the responses given by the proposing department/college.

The Graduate Programs Executive Review Committee has had a chance to review your proposal and there are several key points they would like you to address. They are as follows:

- Is it correct that 2 full-time faculty need to be hired to teach the core curriculum? This is potentially problematic as we cannot evaluate the rigor of the program
  - This proposed program plan includes hiring two new teaching faculty members, who would each teach Main Campus and AZO sections of 2 courses per semester, in addition to acting as faculty mentors for capstone project teams, student mentoring responsibilities, and service responsibilities (meetings, administrative coordination) with AIR and SBS. Job descriptions are attached to provide details on minimum qualifications and KSAs for these positions.
- I'm not convinced that they answered Maggie's comment re needing members of the graduate faculty to mentor and support students- who are their graduate faculty? Career-track faculty are not automatically graduate faculty; there is a criteria document that needs to be established by their graduate faculty on how these individuals (POPs) would meet graduate faculty status.
  - A draft Criteria for Membership in the Graduate Faculty document for this program is attached here. This document was created with guidance from SBS Faculty Affairs, and in accordance with Graduate College policies.
- Has the program assessment plan been vetted by UCATT? The assessment measures don't seem to align with best practices (usually don't use SCS)
  - I reconnected with David Herring at UCATT who previously advised us on our LOs and assessment measures. He apologized for not catching the use of SCS as an assessment. Per his guidance, we have revised this section to remove all references to the SCS.

DRAFT Criteria for Membership in the Graduate Faculty for the Master of Resilience Practice program

A.   Prologue:

1   As specified in UHAP Policy 3.1.04:

Members of the graduate faculty have special privileges and obligations within graduate education, especially related to thesis, dissertation and other culminating capstone project committee roles and membership, as well as graduate student advising and mentorship. Graduate faculty membership is automatically granted to tenured and tenure-track faculty and continuing-status and eligible academic professionals with faculty titles and may be granted selectively to career track faculty or others. The Graduate College, in coordination with the academic colleges and programs, oversees the criteria, processes, and procedures related to the granting, review, and in rare cases of unacceptable performance, the remediation or removal of graduate faculty membership to ensure the quality of graduate programs and delivery of graduate education

2   The Graduate College policies governing graduate faculty membership are set out here: https://grad.arizona.edu/policies/academic-policies/graduate-faculty-policy

3   Members of the Graduate Faculty are expected to maintain the "Responsibilities of Graduate Faculty", as outlined in section 4.1 of the Graduate College policy.

B. Tenured/Tenure-Eligible, Continuing Status/Eligible Academic Professionals

As per UHAP Policy 3.1.04 and section 1.1.1 of the Graduate College Graduate Faculty Policy[1], Tenure-eligible/tenured faculty and Continuing Status eligible/Continuing Status academic professionals with faculty appointments are automatically members of the Graduate Faculty.

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[1] https://grad.arizona.edu/policies/academic-policies/graduate-faculty-policy

C. Members of the Graduate Faculty in Other Programs without FTE in SBS

Faculty who are members of the Graduate Faculty in other programs[3] but who do not hold FTE in SBS may serve as members of the Graduate Faculty with the following criteria:

  a) Have a terminal degree in a field related to resilience, adaptation, sustainability, or environmental management, and
  b) Have a record of strong mentorship of graduate students.
  c) Have applied and practical experience in fields related to resilience, adaptation, sustainability, and/or environmental management.

D. Emeritus Faculty

As per section 1.1.2 of the Graduate College Graduate Faculty policy, faculty who have been awarded Emeritus status by the President of the University of Arizona are automatically members of the Graduate Faculty in their programs, so long as they continue evidence of currency in their field.

E. Criteria for membership of Career Track Faculty and Continuing Status/Eligible professionals without faculty titles.

Career Track Faculty and Continuing Status and CS-Eligible academic professionals without faculty titles *may be recommended for an appointment* to the Graduate Faculty in SBS if they meet at least two of the following criteria:

  a) Hold a terminal degree in a field related to resilience, adaptation, sustainability, or environmental management.
  b) Have a record of strong mentorship of graduate students.
  c) Have applied and practical experience in fields related to resilience, adaptation, sustainability, and/or environmental management.
  d) Have experience conducting research as evidenced by grants, publications, or conference presentations in their discipline.

---

[3] Note that the Graduate College does not maintain a list distinguishing among Graduate Faculty Members in different programs. It is the responsibility of each program to ensure that graduate committees are composed of program-approved members. The program does this verification when the DGS approves GradPath forms.

F.   Vote on Membership in SGPP Graduate Faculty

In order to add a faculty member under sections C & E, AIR/SBS shall forward a nomination for approval to the SBS Dean's office, including a current CV, after a vote according to the voting rules outlined in SBS's bylaws, namely by simple majority of tenured, tenure eligible, and professor-titled career track faculty.

Program Approval Graduate Faculty Criteria: <mark>DRAFT ONLY</mark>
Academic College Dean's office approval:
Graduate College Approval: *Date:*