

Executive Summary

Request for Authorization to Implement: MA in Philosophy, Politics, and Economics

Requested by	College of Social and Behavioral Science				
CIP Code	38.0199, Philosophy, Other				
Purpose of Program	In both private and public enterprises, understanding the interrelation between economic knowledge and ethical appraisal has become urgent. As has become increasingly apparent, economic decisions have ideological and moral consequences, and are seldom simply technical. In corporate and policy-making teams an increasingly important role is occupied by those who grasp the nexus between these fields. The Arizona MA in Philosophy, Politics and Economics (PPE) provide cutting-edge instruction by some of the world’s leading scholars in Philosophy, Politics and Economics to equip future leaders who, as team members, can bridge these fields, and future scholars who explore the complexities of this nexus.				
	5-year projected annual enrollment				
	1 st year	2 nd year	3 rd year	4 th year	5 th year
	--	4	6	7	8
Source(s) of Funding	Program Fee RCM revenue (net cost of allocation) \$600/term Distance learning revenue – funds from Global program in Peru				

Approvals:

- ABOR
- Undergraduate Council
- CAAC
- Faculty Senate

For use by Curricular Affairs:

- Create approval memo
- Send memo to college/dept and acad_org listserv
- Create UAccess Plan Table code(s) (secondary?)
- Upload approval memo and proposal documents to UAccess Plan Table
- Notify acad_org of the plan code creation
- Notify ADVIP team
- Update API, if necessary

New Academic Program Workflow Form

General

Proposed Name: MA Philosophy, Politics, Econ

Transaction Nbr: 00000000000046

Plan Type: Major

Academic Career: Graduate

Degree Offered: Master of Arts

Do you want to offer a minor? N

Anticipated 1st Admission Term: Fall 2021

Details

Department(s):

SBSC

DEPTMNT ID	DEPARTMENT NAME	HOST
0476	Political Economy & Moral Science	Y

Campus(es):

Admission application terms for this plan: Spring: N Summer: N Fall: Y

Plan admission types:

Freshman: N Transfer: N Readmit: N Graduate: N

Non Degree Certificate (UCRT only): Y

Other (For Community Campus specifics): N

Plan Taxonomy: 38.0199, Philosophy, Other.

Program Length Type: Program Length Value: 0.00

Report as NSC Program:

SULA Special Program:

Print Option:

Diploma: Y Masters of Arts
Philosophy, Politics and Economics

Transcript: Y MA Philosophy, Politics and Economics

Conditions for Admission/Declaration for this Major:

Pre-admissions expectations for Intensive MA: Earned bachelor's degree; statement of purpose.

Details: Applicants to the Intensive MA program in PPE must have completed a Bachelor's degree upon entrance to the program. There are no formal restrictions on the major of the aforementioned bachelor's degree, but applying students will be expected have substantive course background in philosophy or the social sciences and to be prepared upon entrance to study material that will presume mathematical maturity and high-level interpretive and critical skills. A well-prepared applicant in her/his completed bachelor's program will have completed: (1) at least four upper division courses in economics, philosophy or/and political science, and (2) the calculus sequence or a comparably advanced set of university-level mathematics courses.

AMP Pathway

Pre-admissions expectations: In addition to the normal University Requirements for AMP degrees, admission requires that students complete the first year (junior) of PPEL courses with a 3.5 average in core PPEL courses.

Requirements for Accreditation:

N/A

Program Comparisons

University Appropriateness

Wildcat Journey: the core mission of the PEMS. Graduates in the MA program will have the skills to be team leaders integrating technical (STEM) and technical economists/ finance experts) members with humanistic and stakeholder concerns.

Grand Challenges: Deloitte Global CEO Punit Renjen's Success personified in the Fourth Industrial Revolution report, released at the World Economic Forum conference in Davos, Switzerland... highlights that leaders are putting a greater focus than ever on advancing society through their technology efforts. In fact, leaders rated 'societal impact' (including income inequality, diversity, and the environment) as the No.1 factor in assessing their organization's annual performance, ahead of financial performance, customer experience, and employee satisfaction. This view manifests in their actions as well; more than 73 percent of the surveyed organizations have developed or changed a product in

the past year to generate positive societal impact through Fourth Industrial Revolution (4IR) technologies.

Ethical decision making requires team members who are knowledgeable in data science and economics, and can understand the technical and economic analyses arguments of STEM. The current Head of the PEMS has served on the Ethical Advisory Council of Salesforce Inc, a top cloud computing firm. In that context specialists in Artificial Intelligence, Finance and Senior Leadership all sought to explore the social and ethical impact of the decision making. At this point, they required outside advisors to assist in normative analysis.

The MA is consistent with SBS's strategic efforts to increase the globalized and diverse character of its student body. In additional, the AMP degree encourages diversity as it is planned to be offered globally, and help fulfill the University's global commitments.

Arizona University System

NBR	PROGRAM	DEGREE	#STDNTS	LOCATION	ACCRDT
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Peer Comparison

See attached.

Faculty & Resources

Faculty

Current Faculty:

INSTR ID	NAME	DEPT	RANK	DEGREE	FCLTY/%
02607728	Allen Buchanan	0428	Adj. Sr. Lect.	Doctor of Philosophy	.10
05805659	Thomas Christiano	0428	Professor	Doctor of Philosophy	.10
14706527	Tauhidur Rahman	AGS C	Assoc. Prof	Doctor of Philosophy	.10
15900375	Gerald Gaus	0476	Professor	Doctor of Philosophy	1.00
22085175	Peter Vanderschraaf	0476	Professor	Doctor of Philosophy	1.00
22085178	Vlad Tarko	0476	Assit. Prof	Doctor of Philosophy	1.00
22085223	Justin Bruner	0476	Assit. Prof	Doctor of Philosophy	1.00
22086726	Maria Porter	0476	Assit. Prof	Doctor of Philosophy	1.00

Additional Faculty:

Adjunct professor - 2. Anticipate adding one each year.

Current Student & Faculty FTE

DEPARTMENT	UGRD HEAD COUNT	GRAD HEAD COUNT	FACULTY FTE
0476	150	0	4.00

Projected Student & Faculty FTE

DEPT	UGRD HEAD COUNT			GRAD HEAD COUNT			FACULTY FTE		
	YR 1	YR 2	YR 3	YR 1	YR 2	YR 3	YR 1	YR 2	YR 3
0476	134	154	170	6	12	16	5.00	5.00	6.00

Library

Acquisitions Needed:

None

Physical Facilities & Equipment

Existing Physical Facilities:

The Department of Political Economy & Moral Science was founded with the plan such a degree would be instituted. The resources are now at the University to deliver this program with no further expense.

Additional Facilities Required & Anticipated:

Office space for graduate students needed. Space currently available in Social Science 126 and cost for this space has been factored into the budget projection. 150

Other Support

Other Support Currently Available:

Manager of Administration currently in place for department. Business manager, administrative associate and program coordinator shared with Philosophy department.

Other Support Needed over the Next Three Years:

N/A

Comments During Approval Process

8/27/2020 8:26 PM

MARTIND1

Comments

Comments by Martin Dufwenberg, Head of the UofA's Economics Department:
This proposal (by PEMS) for a new Masters program appears to have quite bit of overlap with the Masters that is already offered by the UofA's Economics Department. While

Comments

PEMS new program would cover philosophy to a degree that has little counterpart in my department's program, the proposal also features significant coverage of economics. PEMS proposal emphasizes behavioral and experimental economics (p. 8) and game theory (p. 59), areas that feature prominently in our program and where my department has world-class expertise. Moreover, in response to the UofA's online prompt for University Appropriateness, PEMS proposal emphasizes how technical (STEM and technical economists/finance experts) members will be engaged. The subfield of economics which is most often associated with a STEM classification is econometrics, again a field where my department has world-class competence and where our Masters program features several related courses (enough so that our program, presumably unlike that of PEMS, is officially STEM-classified).

My department's Masters program is at a sensitive stage, having started recently. We are aiming to grow in a variety of directions. We wish to market our program by emphasizing econometrics, game theory, experimental economics, and behavioral economics. It is unsettling to now see PEMS emphasize these areas as well. Are they competing with us? We have world-class competence in the areas mentioned, and however passionate faculty members of PEMS may be about these areas they don't have comparable merits to show. However, I see a significant risk that students will not be able to appreciate the distinction. PEMS Masters program may detract interest from ours, luring students who would have prospered with us away from us.



**Proposal for MA Degree in PPE (Philosophy, Politics
and Economics)**

Revised June 1, 2020

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I. Marketing-Promotional Description

Purpose

In both private and public enterprises, understanding the interrelation between economic knowledge and ethical appraisal has become urgent. As has become increasingly apparent, economic decisions have ideological and moral consequences, and are seldom simply technical. In corporate and policy-making teams an increasingly important role is occupied by those who grasp the nexus between these fields. The Arizona MA in Philosophy, Politics and Economics (PPE) provide cutting-edge instruction by some of the world's leading scholars in Philosophy, Politics and Economics to equip future leaders who, as team members, can bridge these fields, and future scholars who explore the complexities of this nexus.

The PPE MA: AMP and Intensive Pathways

This proposal is for one MA degree, with two pathways depending upon the depth of undergraduate preparation.

- An Accelerated Master's program building upon the highly successful undergraduate major in Philosophy, Politics, Economics & Law, which is presently offered at a Global Micro-campus. In consolation, with UA Global the MA is designed been designed so that it too can be offered to Global micro-campuses. The AMP aims to build on the Global BA. In PPEL.
- A one-year intensive pathway, delivered in both residential and global campus modes. This version is intended for those with undergraduate degrees in Philosophy, Political Science or Economics. It is rigorous yet is designed to be completed in ten months. This pathway also will be offered to the Global micro-campuses.

Highlights

There are now over 350 PPE undergraduate programs *world-wide* (which makes the MA especially attractive globally) and about 50 in the United States, including the Ohio State University, the University of Michigan, the University of Maryland, the University of Pennsylvania and Yale University. (See Appendix A). Yet, surprisingly, there is a striking paucity of PPE Masters degrees in the United States: only about seven in total (see Appendix B). It has been a growing field in Europe for some years now (Appendix B)

Moreover, of this very small number, only one or two can be considered advanced work in the “PPE discipline” as taught in the overwhelming number of PPE undergraduate majors. The PPE undergraduate programs stress the integration of normative (ethical) considerations and economic method and political concepts. Most of the PPE (often called “Political Economy”) graduate programs are actually economic policy programs with little or no normative/ethical dimensions. The programs at Duke University, Georgetown University and Claremont Graduate University are of this type. The only truly advanced work in this emerging “ethical+politico-economic methods” discipline is the “Advanced Placement” (4+1) PPE MA at UC/Irvine. The next closest MA program to the proposed UA masters is Penn’s MA program, but its behavioral /experimental focus is different from the more philosophical Irvine and (proposed) Arizona degrees.

In the last ten years PPE has become a discipline in its own right, with a National Society that has yearly meetings, large grant support from a variety of funding agencies, several journals, and a number of universities offering undergraduate majors. Arizona’s Department of Political Economy and Moral Science University of Arizona (PEMS) is, however, the *only* recognized “PPE department” in the United States. It is considered an exemplar and innovator by the PPE discipline. Arizona is uniquely placed to be the preeminent center for this expanding field in the next two decades.

The MA seek to accomplish three closely connected aims:

- To prepare Arizona’s superlative PPEL majors and those with BAs in Philosophy, Politics or Economics for leading roles in teams in government and business, international development institutions, including finance, tech, journalism, and UN.
- To prepare Arizona’s superlative PPEL majors for entry into top 10 Law Schools and Public Policy programs.
- To train the next generation of PPE teachers and researchers, by providing a firm grounding in the PPE discipline before they undertake doctoral work in philosophy or politics.

In addition, with the Cooperation of UA-Global, we will plan to expand the AMP and intensive MA to global micro-campuses. That, of course, depends on UA Global, though they believe that this will be a very attractive Masters (*see letter of support from Brent White in Appendix D*). In this difficult economic environment, the proposed MA degrees are a cost-effective way to increase revenue to the University.

The PPE MA is based on the Department of Political Economy and Moral Science’s educational philosophy that both academic environment and the workplace in the twenty-first century requires interdisciplinary participants as key actors in team-based work, and that interdisciplinary instruction is demanding. Unlike programs that simply draw on a wide variety of disciplinary courses and leave students to draw interdisciplinary insights, the PEMS stresses interdisciplinary connections and methods in *all its courses*. Its educational mission is to train individuals who are able to use the tools and concepts of economics, philosophy and politics to participate in broader teams. Central to our vision is that, while in the twenty-first century those trained in core disciplines will of course still be

tremendously valued, they will not work on their own, but function in collaborative teams, in which interdisciplinary skills will command a premium.

The Fourth Industrial Revolution is not simply about the interrelation of organization and technical knowledge, but crucially concerns the normative aspect of the social impact of their decision:

Deloitte Global CEO Punit Renjen’s Success personified in the Fourth Industrial Revolution report, released at the World Economic Forum conference in Davos, Switzerland, earlier this year highlights that leaders are putting a greater focus than ever on advancing society through their technology efforts. In fact, leaders rated “societal impact” (including income inequality, diversity, and the environment) as the No.1 factor in assessing their organization’s annual performance, ahead of financial performance, customer experience, and employee satisfaction. This view manifests in their actions as well—more than 73 percent of the surveyed organizations have developed or changed a product in the past year to generate positive societal impact through Fourth Industrial Revolution (4IR) technologies.¹

Ethical decision making requires team members who are knowledgeable in data science and economics, and can understand the technical and economic analyses arguments of STEM participants. The current Head of the PEMS has served on the Ethical Advisory Council of Salesforce Inc, a top cloud computing firm. In that context specialists in Artificial Intelligence, Finance and Senior Leadership all seek to explore the social and ethical impact of the decision making. At this point, they required outside advisors to assist in normative analysis.

It is critical to stress that the proposed PPE Masters programs in no way duplicate existing economics or political science degrees at the University of Arizona. PPE is an emerging discipline which:

- considers the normative (ethical) analysis of markets and governments
- employs the tools of economics and political science to explore social dilemmas and problems of moral coordination posed by diverse societies.

The 50 undergraduate programs in the US (and over 350 world-wide) indicate that it is a widespread response to the felt need to integrate philosophical and empirical analyses in understanding contemporary society and its problems.

¹ *Ethical Technology Use in the Fourth Industrial Revolution*, This research is an extension of the Success personified in the Fourth Industrial Revolution report, which is based on a survey of 2,042 global executives and public sector leaders conducted by Forbes Insights in June-August 2018. <<https://www2.deloitte.com/us/en/insights/focus/industry-4-0/ethical-technology-use-fourth-industrial-revolution.html>>

Faculty Expertise

The Department of Political Economy and Moral Science (PEMS) is uniquely equipped to offer an MA in PPE. Indeed, the *raison d'etre* for the Department was to assemble the faculty with both the relevant skills and interdisciplinary interest and commitment to offer such a degree.

Core Members

The core of the MA faculty is composed of the faculty in Department of Political Economy and Moral Science. Two (Professors Peter Vanderschraaf and Justin Bruner) have doctoral degrees in Philosophy (from UC/Irvine, a leader in PPE); Professor Vlad Tarko (Ph.D. Economics), has a degree from George Mason, one the most prominent PPE-oriented Economic Departments. Maria Porter has a doctoral degree in Economics from the famed University of Chicago Department. Gerald Gaus (Ph.D. Pittsburgh) has a doctoral degree in Political Science, and holds the James E. Rogers Professorship in Philosophy (see Appendix C for CVs.)

Affiliated Members

In addition to the Department of Political Economy and Moral Science faculty, at this point elective courses in the Masters degree will be taught by Tauhidur Rahman (associate faculty in PEMS, Associate Professor of Economics, Department of Agricultural and Resource Economics), Tom Christiano (Professor of Philosophy) and Allen Buchanan (Emeritus Professor Philosophy, Duke University).

CURRENT FACULTY

<i>Instructor ID</i>	<i>Name</i>	<i>Dept</i>	<i>Rank</i>	<i>Degree</i>	<i>Fclty %</i>
15900375	Gerald Gaus	0476	Professor, Department Head	Doctorate, Political Science	.1
22085223	Justin Bruner	0476	Assistant Professor	Doctorate, Philosophy	.2
22085178	Vlad Tarko	0476	Assistant Professor	Doctorate, Economics	.2
22085175	Peter Vanderschraaf	0476	Professor	Doctorate, Philosophy	.2
22086726	Maria Porter	0476	Assistant Professor	Doctorate, Economics	.2

AFFILIATED FACULTY

<i>Instructor ID</i>	<i>Name</i>	<i>Dept</i>	<i>Rank</i>	<i>Degree</i>	<i>Fclty %</i>
05805659	Thomas Christiano	0428	Professor	Doctorate	.1
14706527	Tauhid Rahman	2418	Associate Professor	Doctorate	--
02607728	Allen Buchanan	0476	Emeritus, Duke, contracted to teach UA courses	Doctorate	--

II. Need for the Major/Justification

Needs of City, State, Region

Tucson's recent employment growth rate has been one of the lowest in the southwest.² It is critical to the mission of the University of Arizona to prepare Tucson and Arizona for future developments in employment prospects, and in particular to encourage "high tech" employment in Tucson and the state. Such employment is expected to be far more robust in the face of automation. Educational decision makers have tended to premise their priorities in this regard to the so-called "STEM" disciplines. While there is no doubt that these are critical to technological change, recent studies have indicated that liberal arts students are in greater demand in tech industries than is generally thought. A recent report by the Strada Institute concludes that

"... most of the current literature on the future of work underscores this growing need for human skills such as flexibility, mental agility, ethics, resilience, systems thinking, communication, and critical thinking. Northeastern University President Joseph Aoun has devoted an entire book to the concept of "humanics": "a new model of learning that enables learners to understand the highly technological world around them and that simultaneously allows them to transcend it by nurturing the mental and intellectual qualities that are unique to humans—namely their capacity for creativity and mental flexibility."³

"Humanomics" is, interestingly, the title of the Chapman University's humanities and economics undergraduate major (a PPE-related program): it is that spirit which motivates the proposed Arizona Masters in PPE. To enable University of Arizona liberal arts majors to compete in the future employment requires an integration of technical skills (computer-based modeling, behavioral and experimental economics) with humanistic skills. Integrating humanistic, ethical and technological skills is a critical part of development of a knowledge-based economy in Southern Arizona and the State. Too often humanities students fail to understand formal analysis and modeling, while modelers can miss the human implications of their work. As the recent Strada Report concludes, their

"...findings illustrate areas for improvement when it comes to cultivating learners' abilities to integrate human and technical skills. Liberal arts programs, in particular, cannot ignore signals in the labor market. These provide the key to clarifying exactly how human skills transfer and develop into granular skills that are in demand."

² <https://mapazdashboard.arizona.edu/economy/employment-growth-industry>

³ Strada Institute for the Future of Work and Emsi (a Strada Education Network affiliate), *Robot-Ready: Human+ Skills for the Future of Work*, available at <<https://www.economicmodeling.com/robot-ready-reports/>>

This is the core mission of the PEMS. Graduates in the MA program will have the skills to be team leaders integrating technical (“STEM” and technical economists/ finance experts) members with humanistic and stakeholder concerns. Fortune 500 tech companies such as Salesforce have launched committees specifically designed to bring humanistic and technical employees together.

Nation

The critical points made above indicate that the demand for PPE-related Bachelor of Arts programs will continue their remarkable growth. Yet there is an amazing dearth of postgraduate courses in the United States to provide formal training in this integrationist discipline. One of the core missions of the PPE MA is to provide a generation of philosophers, economists and political scientists who are able not only to integrate the fields in their own work, but to teach those who will become PPE teachers themselves. One of the main career paths for all our MA students will be to enter PhD programs in especially Philosophy, since at this point by far most PPE BA majors are housed in Philosophy Departments. Should the growth of PPE majors continue at its present rate, in the future a PhD program in PPE may well be highly desirable. Two recent PhD programs have recently been instituted, a PhD in Political Economics at Stanford and a PhD in Political Economy at Harvard. But, after study, PEMS has decided that at this time Masters degrees, some of whose graduates will enter into Philosophy (and, to a lesser extent, Political Science) PhD programs and some perhaps will enter these new PhD programs, is the most effective way to train the next generation of PPE instructors.

Student Survey

A student survey of all current PPEL juniors and seniors was conducted in the Fall of 2019 to gauge interest in an Accelerated Master’s. The results:

<i>Are you interested in MA in PPE at Arizona?</i>		
	Yes	17
	Perhaps	10
	No	25
<i>Would this be professional or preparation for PhD?</i>	Professional	16
	PhD	7
<i>Are you interested in AMP at Arizona?</i>	High/Yes	28

	Medium/Maybe	9
	No	8

As can be seen there is very strong interest in the Accelerated Master’s. About 2/3 of the students express strong interest. This an extraordinarily high percentage of our undergraduates interested in a PPE Masters. It should also be noted that admission to Advanced Standing in the PPEL major increased by one-third for the Fall of 2020, indicating an even larger number of interested students in the next few years.

Enrollments in Similar Programs

Arizona was one of the earlier departments offering a PPE(L) degree in the United States. Moreover, the Department of Political Economy and Moral Science and it is the only academic department in North America devoted to PPE. Because Arizona has been in the front of the curve on these developments, there has not been a cohort of existing US programs to compare ourselves to.

Two MAs are worthy of note, both being based on PPE programs. The University of Pennsylvania has followed a path similar to that prosed here: first a successful BA in PPE, and then a Master’s. Penn’s MA has focused on the experimental and behavior aspects of PPE (they call their MA Decision-making and Behavioral Science (MDBS)). The University of Pennsylvania’s behavioral decision program is already up to **80** students (and 400 applications). The director of the Penn program reports:

“Our numbers are skyrocketing — from 100 applications in year 1 to nearly 500 applications for our 4th cohort. Intake from 40 students to 80... (many of the students indicate MBDS is their top choice, even at the expense of getting offers from PhD programs or leaving a high-profile position to get their degree). They have to largely self-fund themselves or attract external scholarships as well.”

The UC/Irvine program is different, relating to our AMP proposal. They started with the equivalent of an AMP in PPE. Irvine’s AMP is at **6-7** students. For a new program this is a sound number, but we would expect a considerably higher number on our AMP PPE. The Arizona PPEL BA is already limited to excellent students through an Advanced Standing admission process: our students have a very high tendency to go on to graduate work (about 30-35%) at this point.

Employment Opportunities

The overall Tucson, Arizona and National markets for MA students of the PPE type has been extensively documented in this section. Section I of this proposal indicated the

Department’s belief that the PPE degree offers the skills at interfacing technical and humanistic studies that current projections indicate will be increasingly demanded.

As the Strada report notes, though “they never catch up to STEM graduates in earnings, but liberal arts majors do perform well in the labor market, achieving substantially better outcomes than workers with less education. Among workers with liberal arts BAs, 82 percent are working (70 percent full-time), and the average full-time worker earns \$55,000 annually, \$20,000 more than high school graduates, but \$5,000 less than the average college graduate... Two out of five liberal arts graduates, however, go on to earn graduate degrees, **which further boosts their earnings to \$76,000 annually, on average.**”⁴

Market Analysis: Tucson Region

Below is the Validate analysis of market potential in the Tucson region (edited omitting non applicable categories), using the occupations codes appropriate to a PPE/Political Economy Master’s. It will be seen that the MA in PPE has markets both for general research and data analysis.

Validate	Programs
Metro Areas (MSAs)	Tucson, AZ
Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
Selected Programs	Political Economy (45.1004)
Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

TUCSON REGION REPORT: JOBS FOR OUR GRADUATES

- For our degree criteria, there were **149** job postings in the last 12 months, as compared to:122,829 total job postings in Tucson.
- 11,999 total job postings requesting a Master's degree in Tucson.

The number of jobs is expected to GROW over the next 10 years.

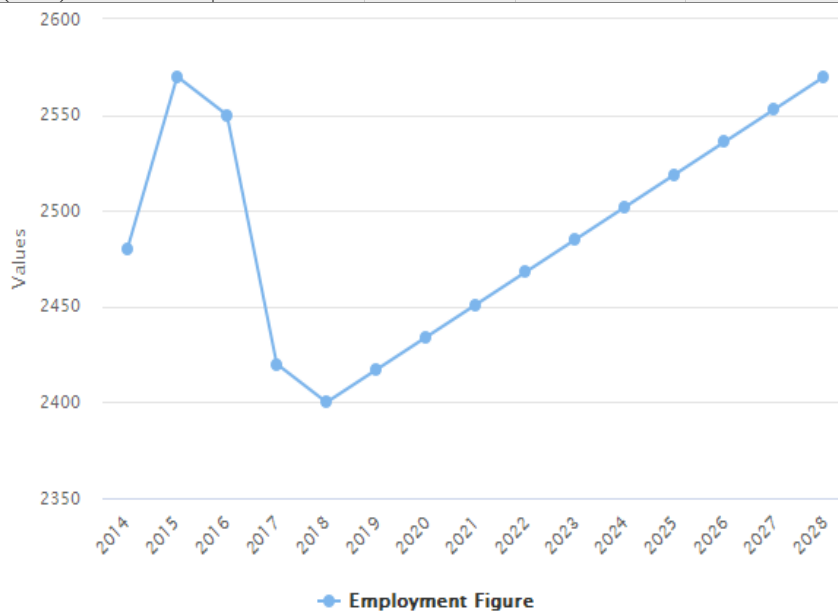
Growth by Geography

⁴ *Robot-Ready: Human+ Skills for the Future of Work*, p. 10.

Geography	Selected Occupations	Total Labor Market	Relative Growth
Tucson, AZ	7.08 %	17.14 %	Low
Arizona	15.83 %	14.97 %	Average
Nationwide	8.28 %	5.78 %	Average

Employment Changes Affecting Career Outcomes of our Program

	2014	2015	2016	2017	2018	2028
Employment (BLS)	2,480	2,570	2,550	2,420	2,400	2,570



Employment data between years 2019 and 2028 are projected figures.

Details by Occupation

Occupation Group	Postings	LQ	Employment (2018)	Employment Growth (2017 - 2018)	Projected Employment Growth (2019-2028)
General Research	116	1.5	220	4.8%	46.8%
Writing and Language	18	0.7	320	-8.6%	9.4%
Journalism and Broadcasting	7	0.6	280	0.0%	1.4%
Data Analysis and Mathematics	6	0.5	1,740	-1.1%	2.1%
Policy Analysis and Planning	2	0.2	NA	NA	NA

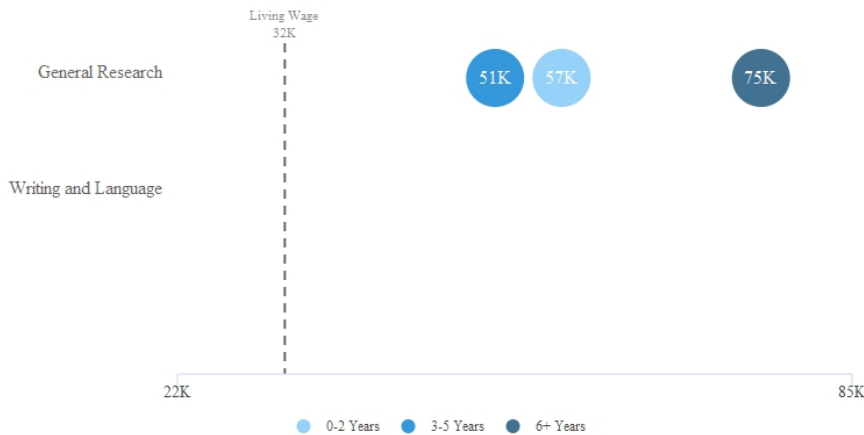
TUCSON REGION REPORT: VERSATILITY OF OUR PROGRAM

Graduates of this type of program usually transition into any of the 5 different occupation groups:

Occupations Group	Market Size (postings)	Percentage of Career Outcome demand
General Research	116	77.9%
Writing and Language	18	12.1%
Journalism and Broadcasting	7	4.7%
Data Analysis and Mathematics	6	4.0%
Policy Analysis and Planning	2	1.3%

TUCSON REGION REPORT: EXPECTED SALARY OF GRADUATES

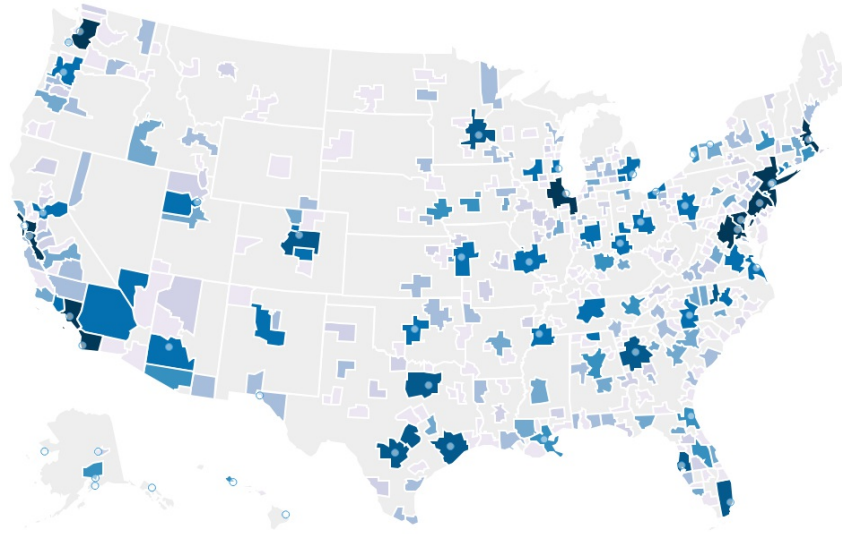
- The average salary in Tucson for graduates of our program is **\$57,122**
- This average salary is above the average living wage for Tucson of \$32, 011



Salary numbers are based on Burning Glass models that consider advertised job posting salary, BLS data, and other proprietary and public sources of information.

Occupation Group	25 th Percentile	Average	75 th Percentile
General Research	\$56510	\$50914	\$75148
Writing and Language	\$0	\$0	\$0
Data Analysis and Mathematics	\$0	\$0	\$0
Journalism and Broadcasting	\$0	\$0	\$0
Policy Analysis and Planning	\$0	\$0	\$0

TUCSON REGION REPORT: DEMAND FOR OUR GRADUATES



Top Locations by Posting Demand

Location	Postings
Washington-Arlington-Alexandria, DC-VA-MD-WV	6,488
New York-Newark-Jersey City, NY-NJ-PA	5,652
Boston-Cambridge-Nashua, MA-NH	3,788
San Francisco-Oakland-Hayward, CA	3,449
Los Angeles-Long Beach-Anaheim, CA	2,480
Seattle-Tacoma-Bellevue, WA	1,903
Chicago-Naperville-Elgin, IL-IN-WI	1,823
San Jose-Sunnyvale-Santa Clara, CA	1,584
San Diego-Carlsbad, CA	1,403
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1,368

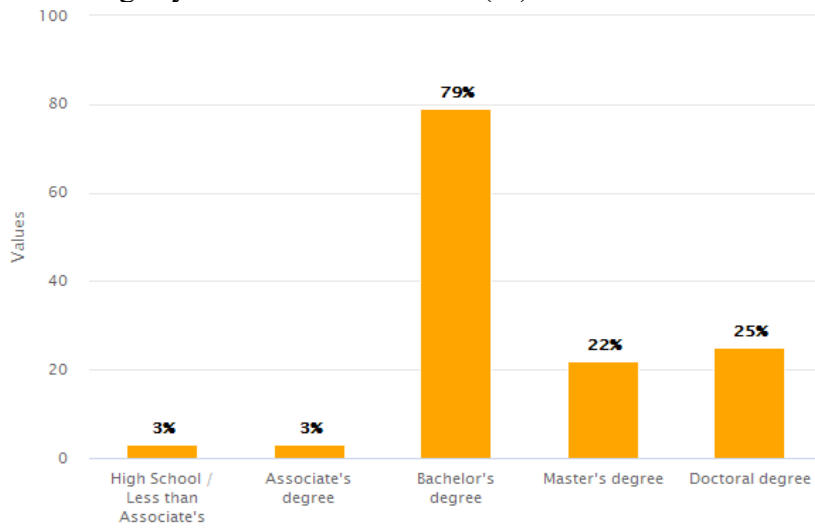
TUCSON REGION REPORT: MARKET ALIGNMENT

Project Criteria

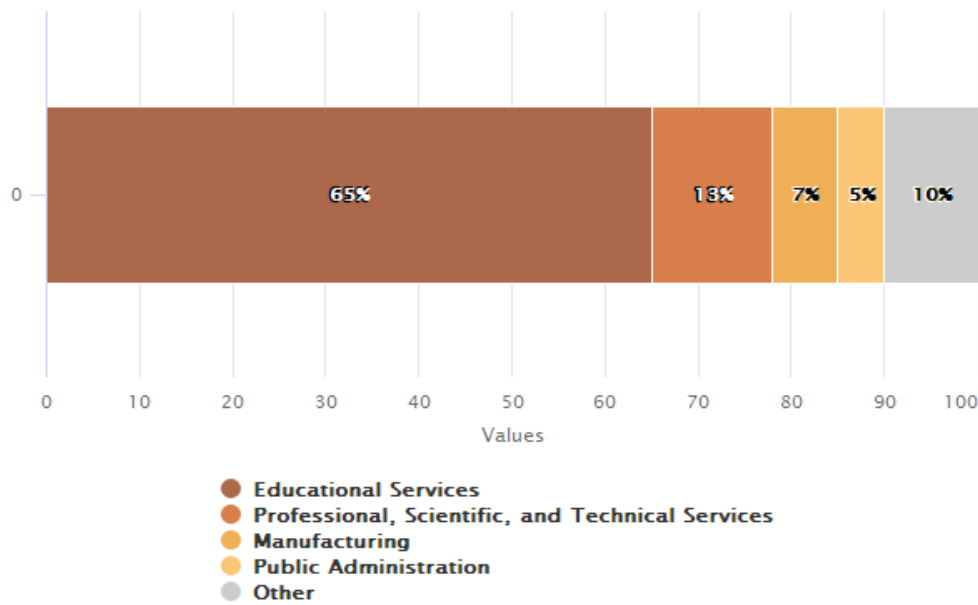
Validate	Programs
Metro Areas (MSAs)	Tucson, AZ

Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
Selected Programs	Political Economy (45.1004)
Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

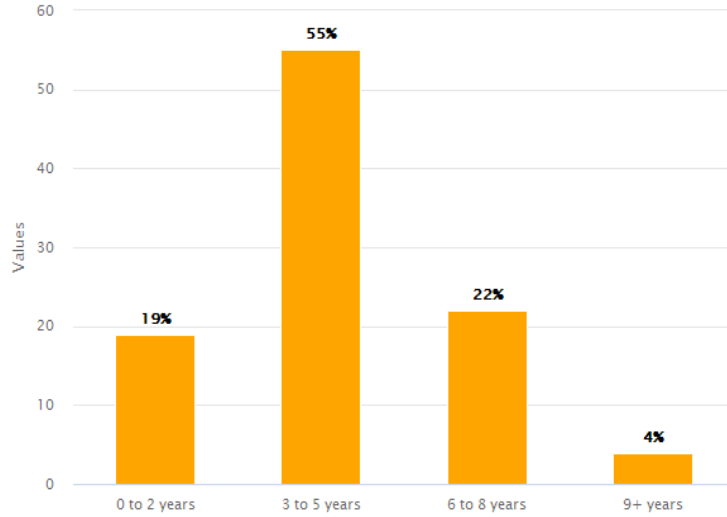
Job Postings by Advertised Education (%)



Job Postings by Industry (%)



Job Postings by Experience Requested (%)



Top Titles

Experience Level: All Experience

Title	Postings	Market Share (%)
Senior Research Specialist	20	16.39%
Principal Research Specialist	14	11.48%
Development Associate	5	4.10%
Scientist, Switch	5	4.10%
Associate Scientist	4	3.28%
Director, Research	4	3.28%
Medical Writer	4	3.28%
Research Associate	4	3.28%
Senior Development Scientist	4	3.28%
Intelligence Analyst	3	2.46%
Operations Research	3	2.46%
Proposal Writer	3	2.46%
Research Analyst	3	2.46%
Research Specialist	3	2.46%
Assistant Research Scientist	2	1.64%

Top Employers Hiring

Experience Level: All Experience

Employer	Postings	Market Share (%)
University of Arizona	67	54.92%
Fast Switch Limited	5	4.10%
Htg Molecular Diagnostics, Inc	5	4.10%
Raytheon	4	3.28%
Anthem Blue Cross	3	2.46%
US Navy	3	2.46%
Accelerate Diagnostics	2	1.64%
Accelerate Diagnostics, Inc	2	1.64%
Cambium Learning	2	1.64%
Htg Molecular	2	1.64%
Accelerate Diagnostics Inc	1	0.82%
Americorps	1	0.82%
Arete Associates	1	0.82%
Bayer Corporation	1	0.82%
Carondelet Health	1	0.82%

TUCSON REGION REPORT: KEY COMPETENCIES

PROJECT CRITERIA

Validate	Programs
Metro Areas (MSAs)	Tucson, AZ
Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
Selected Programs	Political Economy (45.1004)
Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

TOP 15 SPECIALIZED SKILLS

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Experiments	33 (20%)	3.17%	No	No
Technical Writing / Editing	33 (20%)	-18.2%	Yes	No
Project Management	29 (18%)	-19.74%	Yes	No
Budgeting	23 (14%)	-10.04%	No	Yes
Data Analysis	19 (12%)	81.86%	No	No
Data Collection	19 (12%)	0.22%	No	No
Biology	19 (12%)	-20.99%	No	No
Teaching	17 (11%)	-12.75%	No	No
Molecular Biology	15 (9%)	-19.19%	No	No
Project Planning and Development Skills	15 (9%)	-15.09%	No	No
Prepare Presentations	14 (9%)	-12.79%	No	No
Product Development	14 (9%)	-4.41%	Yes	Yes
Preparing Proposals	13 (8%)	-15.9%	No	No

Experimental Design	13 (8%)	13.95%	Yes	No
Grant Writing	13 (8%)	-42.13%	No	No

TOP 15 BASELINES SKILLS

Skill	Postings
Research	122 (76%)
Writing	74 (46%)
Communication Skills	63 (39%)
Teamwork / Collaboration	50 (31%)
Organizational Skills	32 (20%)
Editing	30 (19%)
Meeting Deadlines	29 (18%)
Planning	29 (18%)
Creativity	28 (17%)
Problem Solving	27 (17%)
Microsoft Office	22 (14%)
Detail-Oriented	22 (14%)

Microsoft Excel	18 (11%)
Typing	18 (11%)
English	16 (10%)

TOP 15 SOFTWARE PROGRAMMING SKILLS

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Microsoft Office	22 (14%)	-10.2%	No	No
Microsoft Excel	18 (11%)	17.03%	No	No
Microsoft Powerpoint	11 (7%)	-8.52%	No	No
Microsoft Word	11 (7%)	-13.39%	No	No
Word Processing	8 (5%)	-19.34%	No	No
Python	5 (3%)	61.12%	Yes	No
Software Development	5 (3%)	5.78%	No	No
Computer Engineering	4 (2%)	6.12%	No	No
Drupal	3 (2%)	-59.54%	No	No
MATLAB	3 (2%)	-7.53%	No	No
Adobe Acrobat	2 (1%)	-15.24%	No	No
Data Visualization	2 (1%)	72.42%	No	No
Disco	2 (1%)	12.65%	No	No

Docker Software	2 (1%)	105.95%	No	No
Microsoft C#	2 (1%)	-25.69%	No	No

TOP 15 SKILL CLUSTERS

Skill	Postings
Writing	66 (41%)
Research Methodology	44 (27%)
Microsoft Office and Productivity Tools	39 (24%)
Project Management	32 (20%)
Data Analysis	25 (16%)
Budget Management	23 (14%)
People Management	20 (12%)
Manufacturing Processes	19 (12%)
Teaching	17 (11%)
Cellular Biology	15 (9%)
Product Development	15 (9%)
Market Analysis	11 (7%)
Business Strategy	10 (6%)

Oncology	9 (6%)
Clinical Research	9 (6%)

TOP 15 SALARY PREMIUM SKILLS

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Technical Writing / Editing	33 (20%)	-18.2%	Yes	No
Project Management	29 (18%)	-19.74%	Yes	No
Product Development	14 (9%)	-4.41%	Yes	Yes
Experimental Design	13 (8%)	13.95%	Yes	No
Staff Management	13 (8%)	-13.84%	Yes	No
Good Manufacturing Practices (GMP)	9 (6%)	-26.05%	Yes	No
Python	5 (3%)	61.12%	Yes	No
Machine Learning	4 (2%)	102.54%	Yes	Yes
Physics	4 (2%)	-16.38%	Yes	No
Cell Biology	3 (2%)	4.47%	Yes	No
Clinical Trials	3 (2%)	2.37%	Yes	No
Biotechnology	2 (1%)	-13.91%	Yes	Yes

Immunology	1 (1%)	-3.01%	Yes	No
C++	1 (1%)	-24.09%	Yes	Yes

TOP 15 COMPETITIVE ADVANTAGE SKILLS

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Budgeting	23 (14%)	-10.04%	No	Yes
Product Development	14 (9%)	-4.41%	Yes	Yes
Cancer knowledge	10 (6%)	17.96%	No	Yes
Machine Learning	4 (2%)	102.54%	Yes	Yes
Technical Support	3 (2%)	-10.55%	No	Yes
Biotechnology	2 (1%)	-13.91%	Yes	Yes
Market Research	1 (1%)	-15.02%	No	Yes
C++	1 (1%)	-24.09%	Yes	Yes

Market Analysis: State

Validate	Programs
States	Arizona
Degree Level	Master's degree

Time Period	12/1/2018 - 11/30/2019
Selected Programs	Political Economy (45.1004)
Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

STATE MARKET ANALYSIS: JOBS FOR OUR GRADUATES

There were **715** job postings in the last 12 months.

Compared to:

- 936,884 total job postings in Arizona.
- 79,965 total job postings requesting a Master’s degree in Arizona.

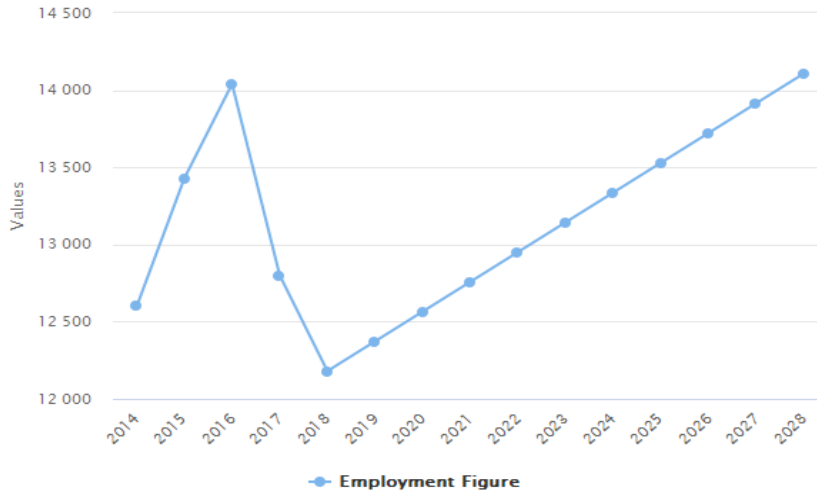
The number of jobs is expected to GROW over the next 10 years.

Growth by Geography

Geography	Selected Occupations	Total Labor Market	Relative Growth
Arizona	15.83 %	14.97 %	Average
Nationwide	8.28 %	5.78 %	Average

Employment Change for Career Outcomes of our Program

	2014	2015	2016	2017	2018	2028
Employment (BLS)	12,600	13,430	14,040	12,800	12,180	14,108



Employment data between years 2019 and 2028 are projected figures.

Details by Occupation

Occupation Group	Postings	LQ	Employment (2018)	Employment Growth (2017 - 2018)	Projected Employment Growth (2019-2028)
General Research	341	0.6	3,450	-9.4%	46.9%
Writing and Language	146	0.7	2,030	-5.6%	8.8%
Journalism and Broadcasting	122	1.3	1,700	11.8%	1.6%
Data Analysis and Mathematics	74	0.8	5,810	-1.7%	2.1%
Policy Analysis and Planning	32	0.4	210	-4.5%	4.3%

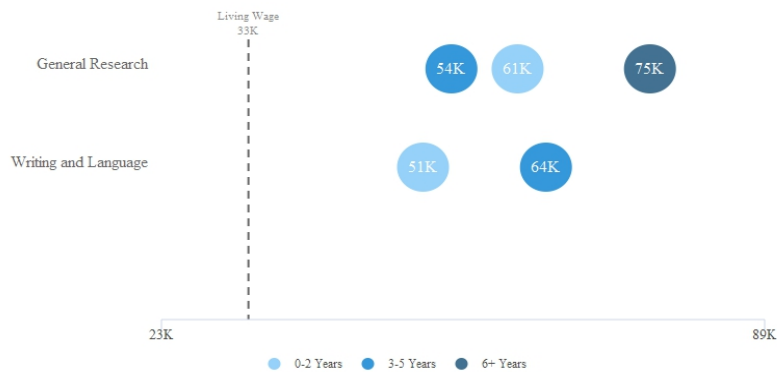
STATE MARKET ANALYSIS: VERSATILITY OF OUR PROGRAM

Graduates of this program usually transition into any of the 5 different occupation groups:

Occupations Group	Market Size (postings)	Percentage of Career Outcome demand
General Research	341	47.7%
Writing and Language	146	20.4%
Journalism and Broadcasting	122	17.1%
Data Analysis and Mathematics	74	10.3%
Policy Analysis and Planning	32	4.5%

STATE MARKET ANALYSIS: EXPECTED SALARIES OF OUR GRADUATES

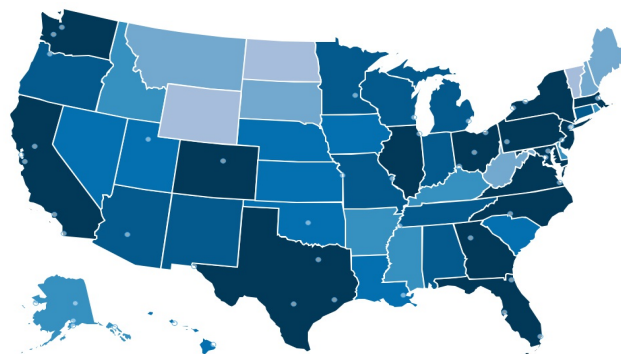
- The average salary in Arizona for graduates of our program is **\$59,842**
- This average salary is Above the average living wage for Arizona of **\$32, 531**



Salary numbers are based on Burning Glass models that consider advertised job posting salary, BLS data, and other proprietary and public sources of information.

Occupation Group	25 th Percentile	Average	75 th Percentile
General Research	\$60646	\$54068	\$75421
Writing and Language	\$51321	\$63870	\$0
Data Analysis and Mathematics	\$63276	\$78705	\$0
Journalism and Broadcasting	\$33148	\$42900	\$0
Policy Analysis and Planning	\$0	\$0	\$0

STATE MARKET ANALYSIS: LOCATION OF DEMAND



Top Locations by Posting Demand

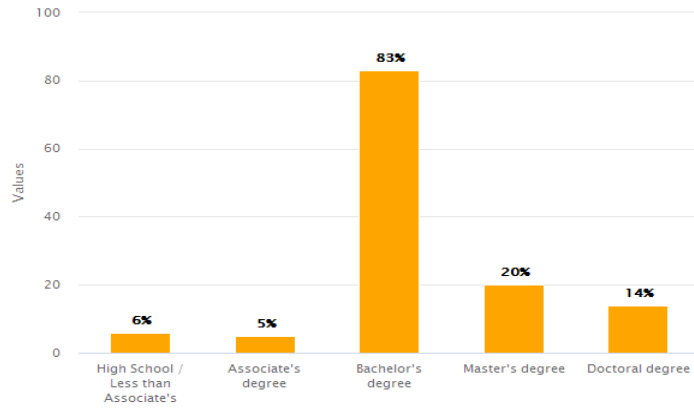
Location	Postings
California	10,385
New York	4,914
Massachusetts	4,138
Virginia	3,561
Texas	3,253
District of Columbia	2,597
Maryland	2,360
Washington	2,192
Florida	2,054
Illinois	2,053

STATE MARKET ANALYSIS: MARKET ALIGNMENT

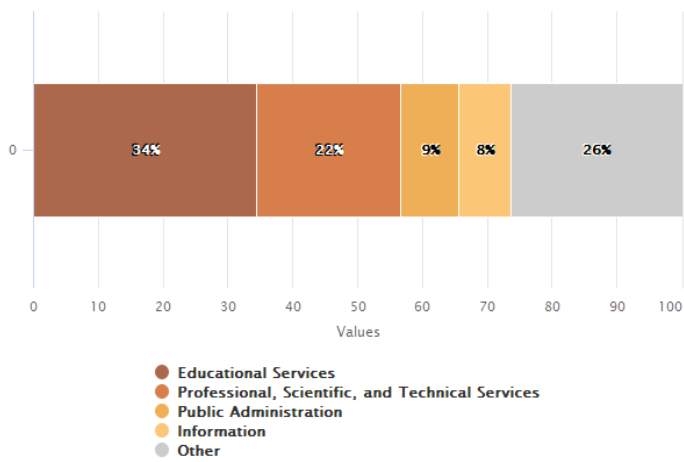
Project Criteria

Validate	Programs
States	Arizona
Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
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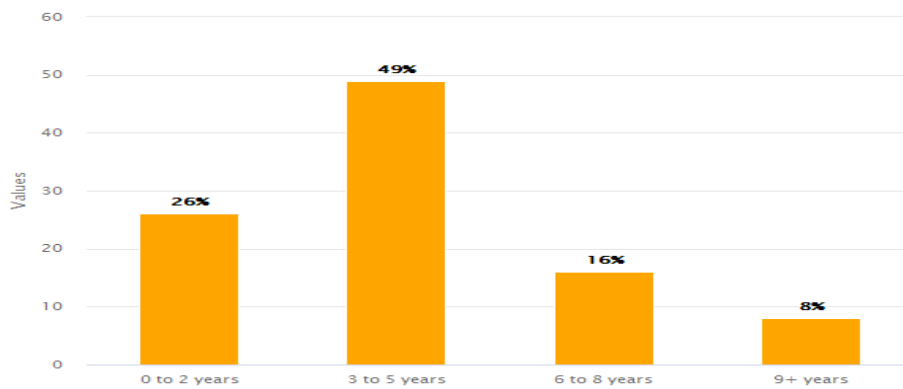
Job Postings by Advertised Education (%)



Job Postings by Industry (%)



Job Postings by Experience Requested (%)



*Top Titles***Experience Level:** All Experience

Title	Postings	Market Share (%)
Intelligence Analyst	36	8.04%
Senior Research Specialist	24	5.36%
Technical Writer	23	5.13%
Reporter	17	3.79%
Principal Research Specialist	15	3.35%
Medical Writer	13	2.90%
Attorney	12	2.68%
Proposal Writer	10	2.23%
Remote Editor	10	2.23%
Development Associate	9	2.01%
Copywriter	8	1.79%
Operations Research	8	1.79%
Research Specialist	8	1.79%
Research Analyst	7	1.56%
Editor	6	1.34%

*Top Employers Hiring***Experience Level:** All Experience

Employer	Postings	Market Share (%)
University of Arizona	75	16.74%
Arizona State University	18	4.02%
Gannett Company Incorporated	13	2.90%
Grand Canyon University	13	2.90%
US Navy	11	2.46%
IBM	9	2.01%

Jacobs Engineering Group Incorporated	9	2.01%
Tribune Company	9	2.01%
Whole Foods Market, Inc.	9	2.01%
Anthem Blue Cross	8	1.79%
Johns Hopkins University	7	1.56%
Snell Wilmer	7	1.56%
Caris Life Sciences	6	1.34%
Honeywell	6	1.34%
Prosync	6	1.34%

STATE MARKET ANALYSIS: KEY COMPETENCIES

Project Criteria

Validate	Programs
States	Arizona
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Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

Top 15 Specialized Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Technical Writing / Editing	105 (14%)	-18.2%	Yes	No
Project Management	91 (12%)	-19.74%	Yes	No
Experiments	72 (10%)	3.17%	No	No

Journalism	71 (10%)	-36.09%	No	No
Budgeting	68 (9%)	-10.04%	No	Yes
Data Collection	56 (8%)	0.22%	No	No
Data Analysis	55 (7%)	81.86%	No	No
Customer Service	49 (7%)	1.05%	No	No
Social Media	49 (7%)	12.88%	No	No
Teaching	44 (6%)	-12.75%	No	No
Quality Assurance and Control	41 (6%)	39.46%	No	No
Staff Management	41 (6%)	-13.84%	No	No
Scheduling	38 (5%)	1.88%	No	No
Psychology	34 (5%)	-15.9%	No	No
Surveillance	33 (4%)	-37.69%	No	No

Top 15 Baselines Skills

Skill Postings

Research	444 (60%)
Writing	330 (45%)
Communication Skills	233 (32%)
Editing	188 (25%)
Teamwork / Collaboration	165 (22%)

Detail-Oriented	123 (17%)
Meeting Deadlines	121 (16%)
Microsoft Excel	121 (16%)
Microsoft Office	116 (16%)
Organizational Skills	108 (15%)
Problem Solving	107 (14%)
Creativity	99 (13%)
Planning	96 (13%)
English	79 (11%)
Written Communication	65 (9%)

Top 15 Software Programming Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Microsoft Excel	121 (16%)	17.03%	No	No
Microsoft Office	116 (16%)	-10.2%	No	No
Microsoft Word	63 (9%)	-13.39%	No	No
Microsoft Powerpoint	57 (8%)	-8.52%	No	No
Python	31 (4%)	61.12%	Yes	No
Facebook	31 (4%)	-34.28%	No	No
Software Development	27 (4%)	5.78%	No	No
SQL	22 (3%)	-13.3%	No	No

Word Processing	18 (2%)	-19.34%	No	No
Microsoft Sharepoint	17 (2%)	-28.61%	No	No
Microsoft Windows	17 (2%)	6.61%	No	No
Social Media Platforms	15 (2%)	38.85%	No	No
Adobe Photoshop	14 (2%)	-22.36%	No	No
C++	14 (2%)	-24.09%	No	No
Salesforce	14 (2%)	46.69%	No	No

Top 15 Skill Clusters

Skill	Postings
Writing	210 (28%)
Microsoft Office and Productivity Tools	194 (26%)
Project Management	116 (16%)
Research Methodology	92 (12%)
Data Analysis	79 (11%)
Journalism	73 (10%)
Budget Management	70 (9%)
People Management	68 (9%)
Basic Customer Service	59 (8%)
Social Media	58 (8%)
Procurement	52 (7%)

Market Analysis	45 (6%)
Business Process and Analysis	45 (6%)
Business Strategy	45 (6%)
Teaching	43 (6%)

Top 15 Salary Premium Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Technical Writing / Editing	105 (14%)	-18.2%	Yes	No
Project Management	91 (12%)	-19.74%	Yes	No
Python	31 (4%)	61.12%	Yes	No
Product Development	28 (4%)	-4.41%	Yes	Yes
Machine Learning	13 (2%)	102.54%	Yes	Yes
Biotechnology	6 (1%)	-13.91%	Yes	Yes

Top 15 Competitive Advantage Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Budgeting	68 (9%)	-10.04%	No	Yes
Product Development	28 (4%)	-4.41%	Yes	Yes
Machine Learning	13 (2%)	102.54%	Yes	Yes
Biotechnology	6 (1%)	-13.91%	Yes	Yes

National Analysis

Validate	Programs
Location	Nationwide
Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
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NATIONAL REPORT: JOBS FOR OUR GRADUATES

For your project criteria, there were **56,273** job postings in the last 12 months.

Compared to:

- 35,671,206 total job postings in your selected location
- 3,267,178 total job postings requesting a Master’s degree in your selected location

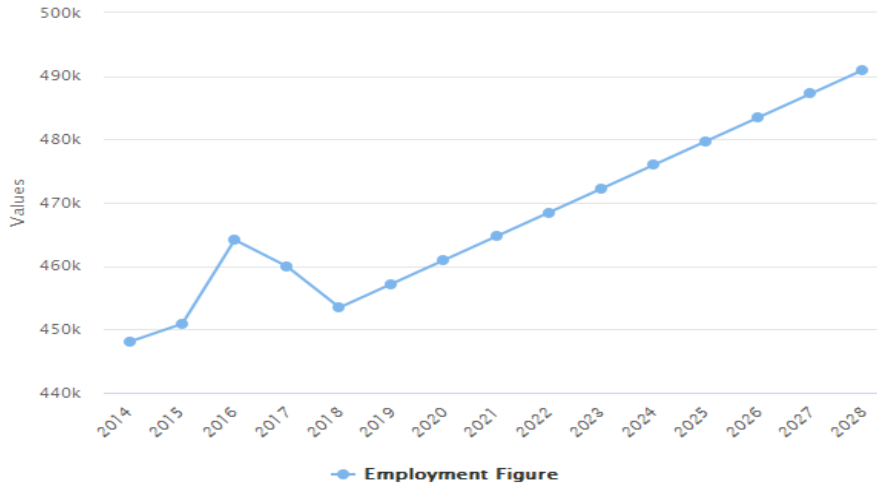
The number of jobs is expected to **GROW** over the next 10 years.

Growth by Geography

Geography	Selected Occupations	Total Labor Market	Relative Growth
Nationwide	8.28 %	5.78 %	Average

Changes in Career Outcomes of your Program

	2014	2015	2016	2017	2018	2028
Employment (BLS)	448,060	450,890	464,140	459,930	453,450	490,991



Employment data between years 2019 and 2028 are projected figures.

Details by Occupation

Occupation Group	Postings	LQ	Employment (2018)	Employment Growth (2017 – 2018)	Projected Employment Growth (2019-2028)
General Research	30,837	NA	104,200	-1.7%	27.5%
Writing and Language	10,645	NA	191,310	-0.4%	4.0%
Data Analysis and Mathematics	5,168	NA	103,450	-1.8%	4.5%
Journalism and Broadcasting	5,009	NA	132,890	-2.1%	-3.8%
Policy Analysis and Planning	4,614	NA	17,350	-1.4%	2.3%

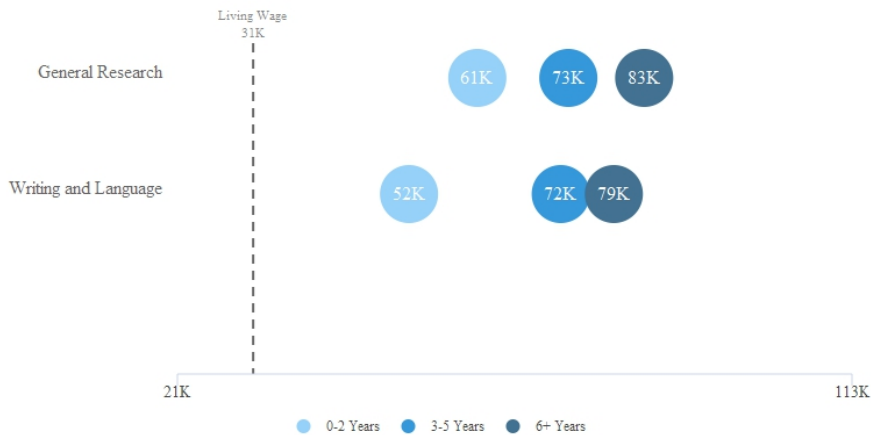
NATIONAL ANALYSIS: VERSATILITY OF OUR PROGRAM

Graduates of this program usually transition into any of the 5 different occupation groups:

Occupations Group	Market Size (postings)	Percentage of Career Outcome demand
General Research	30,837	54.8%
Writing and Language	10,645	18.9%
Data Analysis and Mathematics	5,168	9.2%
Journalism and Broadcasting	5,009	8.9%
Policy Analysis and Planning	4,614	8.2%

NATIONAL ANALYSIS: EXPECTED SALARIES

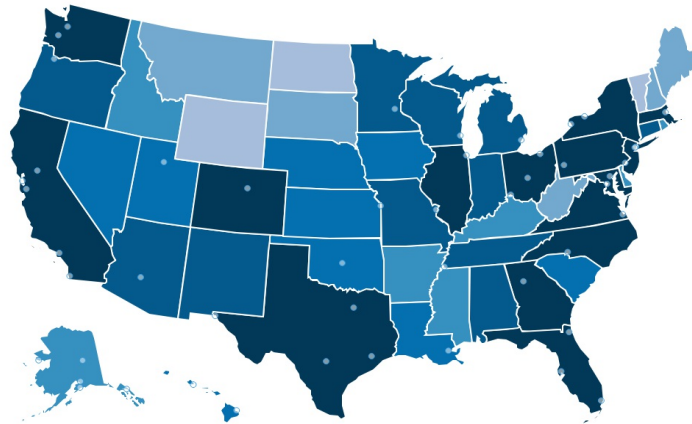
- The average salary in the nation for graduates of your program is **\$70,989**
- This average salary is Above the average living wage for your region of \$31,450



Salary numbers are based on Burning Glass models that consider advertised job posting salary, BLS data, and other proprietary and public sources of information.

Occupation Group	25 th Percentile	Average	75 th Percentile
General Research	\$60871	\$72901	\$82718
Writing and Language	\$52129	\$71809	\$78627
Data Analysis and Mathematics	\$71492	\$85753	\$103351
Policy Analysis and Planning	\$58074	\$66437	\$81430
Journalism and Broadcasting	\$42194	\$51492	\$66313

NATIONAL ANALYSIS: LOCATION OF DEMAND FOR GRADUATES



Top Locations by Posting Demand

Location	Postings
California	10,385
New York	4,914
Massachusetts	4,138
Virginia	3,561
Texas	3,253
District of Columbia	2,597
Maryland	2,360
Washington	2,192
Florida	2,054
Illinois	2,053

NATIONAL ANALYSIS: COMPETITIVE LANDSCAPE

High Similarity/Low Competition

The University of California/Irvine. Advanced Master’s in M.A. in Philosophy, Political Science and Economics (PPE).

This is a new “AMP” MA in PPE, and is the closest to the Arizona AMP. As with Arizona, the program grew out of a Philosophy Department with a more formal methodology. However, UC/Irvine does not have a stand-alone MA.

Since the degree is an AMP, there is no significant competition between Irvine and Arizona.

Medium Competition/Medium Similarity

Duke: M.A. Analytical Political Economy (MAPE)

The Master of Arts in Analytical Political Economy (MAPE) at Duke University is a joint master's program of the Departments of Economics and Political Science, located in the Department of Economics. It focuses on policy studies: "such as immigration, environmental regulation, digital rights, and international trade increasingly includes a strong political component."

There is modest overlap between the Duke MAPE at the proposed MA: both of course raw on economic tools and their application, and have a political theory component. But a core element of the Arizona MA will be normative and ethical engagement with topics and problems in political economy.

University of Pennsylvania, MA Decision-making and Behavioral Science (MDBS)

Like the proposed Arizona MA degrees, the MDBS program at the University of Pennsylvania grew out of a PPE undergraduate major housed in a Philosophy Department. However, Penn's MDBS is strongly focused on behavioral economics and psychology, whereas the proposed Arizona MA will have strong components in social philosophy and formal methodology that are not integral to this MDBS program.

Low Competition/Low Similarity

Peter F. Drucker and Masatoshi Ito Graduate School of Management, Claremont Graduate University, Master of Arts in International Political Economy (MAIPE).

"The MAIPE program takes advantage of the high level of curricular integration between the departments of Economics and of Politics and Policy. Graduates will be trained in the analytical tools most frequently in demand for analyzing trends and issues in the international political economy."

There is little competition between the Claremont program and the Arizona MA: the proposed MA does not have an international relations focus.

Georgetown University, M.A. in Political Economy.

This joint degree from Georgetown University and the ULB-Solvay Brussels School of Economics and Management offers. This degree stresses “training in formal and quantitative political economy, with a strong emphasis on economic policy.”

Again, little competition between the Georgetown and the Arizona MA. Georgetown University, M.A. in Political Economy is economic policy/career focused.

New School, Global Political Economy and Finance (MA).

“The MA in Global Political Economy and Finance is ...provides students with a sophisticated understanding of the world economy in historical context, the political economic analysis of the dynamics of contemporary world capitalist society, and state-of-the-art tools of political economic and financial analysis.”

Very little competition: the Arizona MA stresses normative analysis of economics issues as well as the use of economics tools to examine philosophical issues from a more rigorous economic tools.

Overall, there is practically no competing degrees in the United States, though similar programs exist in Europe (see Appendix B).

The following are estimates of degree conferrals.

<i>Institution</i>	<i>School Type</i>	<i>Conferrals (2018/19)</i>	<i>Conferrals Change (2014-2018)</i>
High Similarity/ Low Competition			
<i>UC/Irvine</i>	Public	6	>100% (from 0)
Medium Competition /Medium Similarity			
<i>Duke University</i>	Private	8	100.00%
<i>University of Pennsylvania</i>	Private	30	300%
Low Competition/Low Similarity			

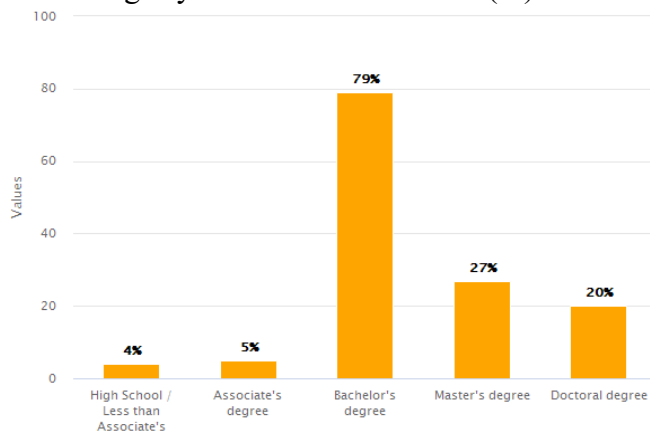
Claremont Graduate University	Private	1	100.00%
The New School	Private	1	100.00%
Georgetown University	Private	0	0.00%

NATIONAL ANALYSIS: MARKET ALIGNMENT

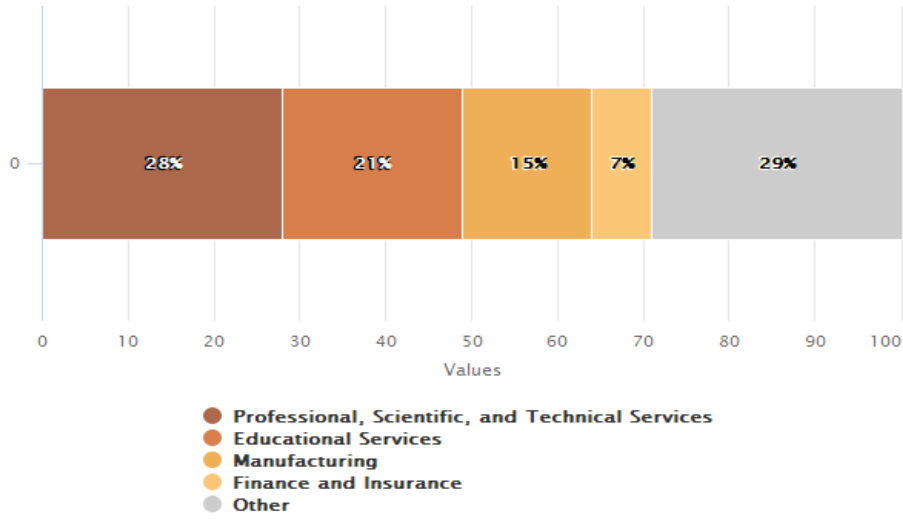
Project Criteria

Validate	Programs
Location	Nationwide
Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
Selected Programs	Political Economy (45.1004)
Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

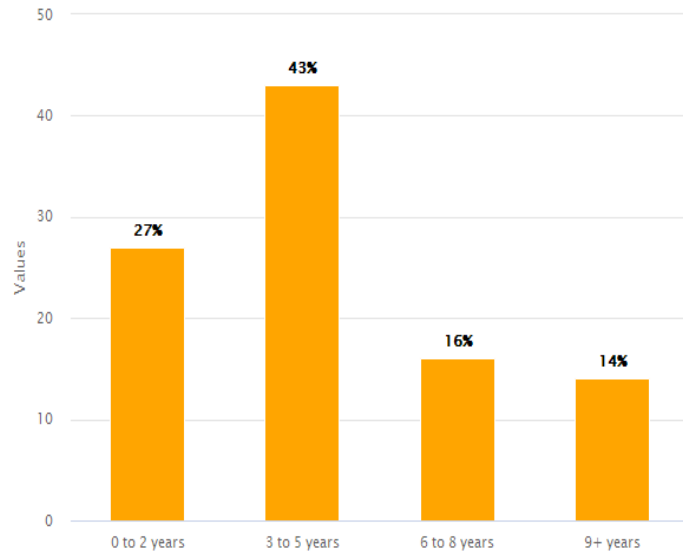
Job Postings by Advertised Education (%)



Job Postings by Industry (%)



Job Postings by Experience Requested (%)



*Top Titles***Experience Level:** All Experience

Title	Postings	Market Share (%)
Technical Writer	2,035	5.42%
Intelligence Analyst	1,570	4.18%
Policy Analyst	1,166	3.11%
Medical Writer	1,043	2.78%
Research Associate	1,033	2.75%
Scientist	894	2.38%
Research Assistant	711	1.89%
Research Analyst	592	1.58%
Research Scientist	551	1.47%
Proposal Writer	510	1.36%
Researcher	479	1.28%
Senior Scientist	384	1.02%
Research Manager	347	0.92%
Writer/Editor	315	0.84%
Research Specialist	298	0.79%

*Top Employers Hiring***Experience Level:** All Experience

Employer	Postings	Market Share (%)
Whole Foods Market, Inc.	695	1.85%
Anthem Blue Cross	562	1.50%
Amazon	423	1.13%
Deloitte	349	0.93%
Booz Allen Hamilton Inc.	334	0.89%
Leidos	319	0.85%
US Navy	275	0.73%
CACI	233	0.62%
IBM	229	0.61%
University of Illinois	218	0.58%

SAIC	213	0.57%
Amgen	212	0.56%
Northrop Grumman	210	0.56%
Humana	185	0.49%
General Dynamics	182	0.48%

NATIONAL ANALYSIS: KEY COMPETENCIES

Project Criteria

Validate	Programs
Location	Nationwide
Degree Level	Master's degree
Time Period	12/1/2018 - 11/30/2019
Selected Programs	Political Economy (45.1004)
Career Outcomes mapped to Selected Programs of Study	Researcher / Research Associate, Survey Researcher, Security / Defense Intelligence Analyst, Writer, Copywriter, Technical Writer, Editor, Policy Analyst, Reporter

Top 15 Specialized Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Project Management	6713 (11%)	-19.74%	Yes	No
Technical Writing / Editing	6596 (11%)	-18.2%	Yes	No
Experiments	5574 (9%)	3.17%	No	No
Budgeting	5494 (9%)	-10.04%	No	Yes
Data Analysis	5264 (9%)	81.86%	No	No
Data Collection	4774 (8%)	0.22%	No	No

Scheduling	4006 (7%)	1.88%	No	No
Python	3882 (7%)	61.12%	Yes	No
Customer Service	3652 (6%)	1.05%	No	No
Public Health and Safety	3046 (5%)	2.45%	No	No
Quality Assurance and Control	3034 (5%)	39.46%	No	No
Biology	2906 (5%)	-20.99%	No	No
Journalism	2902 (5%)	-36.09%	No	No
Staff Management	2827 (5%)	-13.84%	Yes	No
Social Media	2767 (5%)	12.88%	No	No

Top 15 Baselines Skills

Skill Postings

Research	36819 (62%)
Writing	23911 (40%)
Communication Skills	23200 (39%)
Teamwork / Collaboration	15351 (26%)
Editing	11450 (19%)
Organizational Skills	10481 (18%)
Detail-Oriented	9506 (16%)
Planning	9475 (16%)
Creativity	8676 (15%)

Microsoft Excel	8575 (14%)
Problem Solving	7966 (13%)
Microsoft Office	7193 (12%)
Written Communication	6018 (10%)
Microsoft Powerpoint	5376 (9%)
Microsoft Word	5022 (8%)

Top 15 Software Programming Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Microsoft Excel	8575 (14%)	17.03%	No	No
Microsoft Office	7193 (12%)	-10.2%	No	No
Microsoft Powerpoint	5376 (9%)	-8.52%	No	No
Microsoft Word	5022 (8%)	-13.39%	No	No
Python	3882 (7%)	61.12%	Yes	No
Software Development	1988 (3%)	5.78%	No	No
SQL	1974 (3%)	-13.3%	No	No
C++	1715 (3%)	-24.09%	Yes	Yes
SAS	1579 (3%)	6.44%	No	No
Java	1534 (3%)	-13.18%	No	No
MATLAB	1426 (2%)	-7.53%	No	No
Adobe Acrobat	1246 (2%)	-15.24%	No	No

Adobe Photoshop	1217 (2%)	-22.36%	No	No
R	1152 (2%)	40.61%	No	No
Microsoft Outlook	1141 (2%)	-1.45%	No	No

Top 15 Skill Clusters

Skill	Postings
Microsoft Office and Productivity Tools	13451 (23%)
Writing	12972 (22%)
Research Methodology	9491 (16%)
Project Management	8290 (14%)
Data Analysis	7320 (12%)
Budget Management	5530 (9%)
Basic Customer Service	5321 (9%)
People Management	4394 (7%)
Business Strategy	4014 (7%)
Product Development	3986 (7%)
Scripting Languages	3905 (7%)
Business Process and Analysis	3753 (6%)
Social Media	3712 (6%)
Cellular Biology	3524 (6%)
Graphic and Visual Design Software	3513 (6%)

Top 15 Salary Premium Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Project Management	6713 (11%)	-19.74%	Yes	No
Technical Writing / Editing	6596 (11%)	-18.2%	Yes	No
Python	3882 (7%)	61.12%	Yes	No
Staff Management	2827 (5%)	-13.84%	Yes	No
Machine Learning	2688 (5%)	102.54%	Yes	Yes
Product Development	2501 (4%)	-4.41%	Yes	Yes
Biotechnology	2052 (3%)	-13.91%	Yes	Yes
C++	1715 (3%)	-24.09%	Yes	Yes
Physics	1660 (3%)	-16.38%	Yes	No
Experimental Design	1443 (2%)	13.95%	Yes	No
Clinical Trials	1089 (2%)	2.37%	Yes	No
Immunology	1055 (2%)	-3.01%	Yes	No
Cell Biology	973 (2%)	4.47%	Yes	No
Good Manufacturing Practices (GMP)	971 (2%)	-26.05%	Yes	No

Top 15 Competitive Advantage Skills

Skill	Postings	Projected Growth	Salary Premium	Competitive Advantage
Budgeting	5494 (9%)	-10.04%	No	Yes

Machine Learning	2688 (5%)	102.54%	Yes	Yes
Product Development	2501 (4%)	-4.41%	Yes	Yes
Biotechnology	2052 (3%)	-13.91%	Yes	Yes
C++	1715 (3%)	-24.09%	Yes	Yes
Cancer knowledge	1563 (3%)	17.96%	No	Yes
Technical Support	1375 (2%)	-10.55%	No	Yes
Market Research	1298 (2%)	-15.02%	No	Yes

Top 15 Certifications

Skill	Postings	Salary Premium	Competitive Advantage
Security Clearance	3442 (6%)	No	No
Driver's License	2059 (3%)	No	No
Project Management Certification	353 (1%)	No	No
Project Management Professional (PMP)	161 (0%)	No	No
IT Infrastructure Library (ITIL) Certification	144 (0%)	No	No
Certified Information Systems Security Professional (CISSP)	137 (0%)	No	No
SANS/GIAC Certification	136 (0%)	No	No
CompTIA Security+	133 (0%)	No	No
Pest Control Applicator	104 (0%)	No	No

GIAC Security Essentials (GSEC)	74 (0%)	No	No
American Board for Engineering and Technology (ABET) Accredited	71 (0%)	No	No
ITIL Certification	69 (0%)	No	No
First Aid Cpr Aed	66 (0%)	No	No
Systems Security Certified Practitioner (SSCP)	60 (0%)	No	No
Cisco Certified Network Associate (CCNA)	58 (0%)	No	No

III. Major Requirements

Total units required to complete degree (minimum): 30

Intensive Pathway

Pre-admissions expectations for Intensive MA: Earned bachelor's degree; statement of purpose.

Details: In addition to all Graduate School Admissions requirements (including a GPA of 3.0 in undergraduate work)⁵ applicants to the Intensive MA program in PPE must have completed a Bachelor's degree with substantive course background in philosophy or the social sciences and to be prepared upon entrance to study material that will presume mathematical maturity and high-level interpretive and critical skills. A well-prepared applicant in her/his completed bachelor's program will have completed: (1) at least four upper division courses in economics, philosophy or/and political science, and (2) the calculus sequence or a comparably advanced set of university-level mathematics courses.

AMP Pathway

Pre-admissions expectations: In addition to the normal University Requirements for AMP degrees,⁶ admission requires that students complete the first year (junior) of PPEL courses with a 3.5 GPA in PPEL coursework.

Major requirements MA

(1) Complete **18** units of **core** coursework:

- PEMS 501 (3) Formal Methods of PPE
- PEMS 520 (3) Coordination and Conflict of Interests in Social Life
- PEMS 555 (3) Choice, Evolution and Institutions
- PEMS 530 (3) Empirical Methods for PPE
- PEMS 540 (3) Justice, Philosophical and Formal
- PEMS 570 (3) Directed Research

⁵ See <https://grad.arizona.edu/admissions/requirements>

⁶ See <https://catalog.arizona.edu/policy/accelerated-masters-program-amp#requirements>

(2) Complete **12 units of elective coursework** from the following list in consultation with advisor:

- PEMS 550 (3) Moral and Social Norms
- PEMS 580 (3) Graduate Seminar in Current Research
- PEMS 508 (3) Economics of the Family†
- PEMS 506 (3) Game Theory and the Social Contract†
- PEMS 510 (3) Economic Analysis of Law†⁷
- PEMS 560 (3) Democracy and Social Choice†
- PEMS 537 (3) Moral and Social Evolution†
- PHIL 539 (3) Decision Theory
- AREC 512 (3) Development Economics

- **Research methods, data analysis, and methodology requirements:** Students complete at least 6 units of research methods in their core coursework and can elect to take additional courses in consultation with advisor. The six units come from the PEMS 501 (Formal Methods), PEMS 530 (Empirical Methods).
- **Internship, practicum, applied course requirements:** PEMS 570 (Directed Research) provides a capstone engagement experience, with the instructor and students working on final projects.
- **Master thesis or dissertation required:** No.

⁷ †Indicates graduate co-convened section of existing undergraduate course.

V. New Courses Needed

The table below list new courses that must be created to initiate the program.

A new course code “PEMS” is required (Department of Political Economy and Moral Science”)

<i>Course prefix and number (include cross-listings)</i>	<i>Units</i>	<i>Title</i>	<i>Course Description</i>	<i>Pre-requisites</i>	<i>Modes of delivery (online, in-person, hybrid)</i>	<i>Status *</i>	<i>Anticipate d first term offered</i>	<i>Typically Offered (F, W, Sp, Su)</i>	<i>Dept signed party to proposal? (Yes/No)</i>	<i>Faculty members available to teach the courses</i>
PEMS 501	3	Formal Methods of PPE	This course will serve as an advanced-level introduction to mathematical theories developed for and central in the social sciences, especially those parts of the social sciences that analyze individual and group decisions. Specific areas of study will include: (1) formal accounts of preferences, (2) utility representation theorems, (3) Bayesian rational choice theory and proposed alternative accounts of rational choice, (4) efficiency concepts and their relationships to competitive equilibria, (4) social choice theory, the mathematical analysis of deriving preferences and choices for groups from the preferences of their constituent members, and (5) game theory, the mathematical theory of interactive decisions. This course requires students to solve specific problems, including numerical exercises and more general exercises requiring analytic derivations of more general results, in each of these parts of mathematical social science.	none	In-person Global flipped	D	Fall 2022	Fall	Y	Bruner Vanderschraaf
PEMS 550	3	Moral & Social Norms	This course is an intensive research seminar on the theory and practice of social and moral norms. The seminar is divided into three parts (1) the theory of moral social norms and their game theoretic analyses; (2) experimental work on moral and social norms; (3) field work on moral and social norms and norm change. Students will design and conduct an experiment using M-Turk.	PEMS 501	In-person Global flipped	D	Winter 2023	Winter	Y	Gaus, Bruner

PEMS 520	3	Coordination and Conflict of Interests in Social life	This course provides an advanced-level introduction to the application of microeconomic tools, such as utility theory and game theory, for analyzing social phenomena. Specific areas of study include: (1) how markets coordinate diverse interests; (2) the role of social and moral norms in the market; (2) explaining the causes of coordination failure; (3) analyzing non-market cooperation, from the economics of households and the family, to the operation of hierarchies within firms, collective property arrangements. This course requires students to solve specific problems, including exercises requiring analytic or computational methods.	None	In-person Global flipped	D	Fall 2022	Fall	Y	Tarko Porter
PEMS 555	3	Choice, Evolution and Institutions	This course will serve as an advanced-level study to contemporary analysis of institutions and how institutions can solve, or fail to solve, problems of public choice. Specific areas of study include, but are not limited to: (1) public goods and the zero-contribution hypothesis, (2) rule-based and equilibrium-based approaches to analyzing institutions, (3) the evolution of self-regulating social systems, and (4) alternative approaches to governing common pool resources (5) the role of social norms in grounding cooperation. For each of these areas, students will study both relevant proposed analytical theories and relevant empirical findings from laboratory and field studies. This course requires students to solve specific problems, including exercises requiring analytic or computational methods, in each of these parts of public choice analysis and institutional analysis.	PEMS 520	In-person Global flipped	D	Fall 2021	Fall		Tarko, Porter
PEMS 530	3	Empirical Methods for PPE	This course will introduce students to statistical methods applicable to the study of problems in political economy. Specific areas of study may include: (1) descriptive statistical methods used in the social sciences, (2) methods of statistical inference applied in social science experiments, and (3) topics in econometrics and advanced data analysis. Students will learn and use software for statistical and computational analysis such as STATA and MatLab. This course	None	In-person Global flipped	D	Fall 2021	Fall	Y	Vanderschraaf Tarko Porter

			requires students to analyze specific problems by running or /and programming many statistical procedures using such software.							
PEMS 540	3	Justice, Philosophical and Formal	This course will explore philosophical and formal modeling approaches to understanding the nature of justice and its applications. Topics include: (1) classical versus modern approaches to understanding justice, (2) justice understood as a system of mutually advantageous rules, (3) justice understood as a system of requirements meeting certain impartiality conditions, (4) claimed distinctions between general and local justice, and (5) how systems of justice may change over time. There will be emphasis on understanding the relation of philosophical analysis to economic modeling of justice and equality. Students will be expected to comprehend and critically discuss classic and leading relevant contemporary philosophical texts and to propose and defend original relevant theses orally and in writing.	PEMS 501	In-person Global flipped	D	Fall 2022	Fall	Y	Bruner Vanderschraaf Gaus
PEMS 580	3	Current Research Seminar in PPE	In this capstone seminar for Intensive MA students, students will present research papers written in their second semester of MA studies to the seminar. Faculty will participate by presenting their own work. Eminent researchers in PPE will visit, both to present their own work and to workshop the student's work.	PEMS 520	In person	D	Pre-summer 2023	Pre-summer	Y	Vanderschraaf Bruner Tarko Porter Gaus
PEMS 508 (a graduate version of the current PPEL 408)	3	Economics of the Family	This course will cover theoretical and empirical models of microeconomics of the family. The course will critically review the current literature on household economics (or economics of the family), with attention to assumptions made in modeling household decisions and issues with identifying empirical relationships and making causal inferences. We will discuss current applications of the economist's approach to studying the family. Relevant topics include marriage, divorce, investment in children, intergenerational transfers, and migration.	PEMS 520	In-person Global flipped	D	Spring 2022	Spring	Y	Porter
PEMS 510 (a graduate version of the current PPEL 410)	3	Economic Analysis of Law	What explains the details of our existing property, contracts, torts, and criminal laws, and how can we best think about institutional reforms? What is the proper role for democratic legislatures, courts, markets, federalism, and civil society? Which institutional arrangements allow a society to organize most productively, and why do many countries lack those institutions? This class uses the basic concepts and tools of economics to address such questions.	PEMS 520	In person Global flipped	D	Spring 2022	Spring	Y	Tarko

PEMS 560 (a graduate version of the current PPEL 460)	3	Democracy and Social Choice	Theories of democracy have been advanced by economists, political scientists, and philosophers. This course will consider these contrasting analyses, and the ways in which democracy constitutes a procedure of social choice.	PEMS 501	In-person Global flipped	D	Fall 2021	Fall	Y	Christiano Gaus
PEMS 506 (a graduate version of the current PPEL 406)	3	Game Theory and the Social Contract	The social contract is a philosophical idea that predates Plato. In its most generic sense, a social contract is a body of rules that can regulate a community. Game theory emerged in the mid-20th century as the first part of applied mathematics specifically designed to address questions of social science. Game theory is a formal theory of decisions that interact, and in particular decisions that can together produce various social outcomes. In this course we will explore how the contemporary tools of game theory might advance our understanding of the ancient notion of the social contract.	PEMS 501	In person	D	Fall 2021	Fall	Y	Vander-schraaf Gaus Bruner
PEMS 537 (a graduate version of the PPEL 437)	3	Moral & Social Evolution	This course will examine the application of evolutionary thought to society, and especially to morality and political philosophy.	PEMS 501	In-person Global flipped	D	Spring 2022	Spring	Y	Gaus Bruner Buchanan
PEMS 570	3	Directed Research in PPE	The culminating experience of the AMP in PPE is a Final Capstone Research project. To complete this research project, a student must compose a research paper and present this paper publicly.	PEMS 501	In-person Global flipped	D	Spring 2022	Spring	Y	Vanderschraaf Bruner Tarko Porter Gaus

VI. Faculty Information

Faculty Member	Involvement (a single course may be taught by the various faculty listed below) Courses marked by * are core courses. Courses marked by ‡ can be taught by multiple faculty.	
Justin Bruner	Teach PEMS 540: Justice, Phil and Formal*‡ Teach PEMS 501: Formal Methods*‡ Teach PEMS 520 (3) Coordination and Conflict of Interests in Social Life*‡	CV Appendix C
Gerald Gaus	Teach PEMS 550 (3) Research Seminar Moral and Social Norms Teach PEMS 570: Directed Research Advise Students Teach PEMS 580: Current Research in PPE Graduate Director	CV Appendix C
Maria Porter	Teach PEMS 555: Choice, Evolution and Institutions Teach PEMS 520: Coordination and Conflict of Interests in Social life Teach PEMS 508: The Economics of the Family Teach PEMS 580: Current Research in PPE Teach PEMS 570: Directed Research Advise Students	CV Appendix C
Vlad Tarko	Teach PEMS 555: Choice, Evolution and Institutions Teach 530: Empirical Methods for PPE Teach PEMS 580: Current Research in PE Teach PEMS 570: Directed Research Advise Students	CV Appendix C
Peter Vanderscraaf	Teach PEMS 540: Justice, Phil and Formal Teach PEMS 501: Formal Methods Teach: PEMS 506: Game Theory and the Social Contract Teach PEMS 530: Empirical Methods for PPE Teach PEMS 570: Directed Research Advise Students	CV Appendix C
Thomas Christiano	Teach: PEMS 560: Democracy and Social Choice	CV Appendix C
Tauhidur Rahman	Teach AREC 512: Development Economics	Appendix C
Allen Buchanan	Teach PEMS 537	Appendix C

The following provides workload distribution for faculty teaching PEMS graduate courses, divided between purely undergraduate, co-convened, and graduate courses.

<i>Faculty</i>	<i>FTE undergrad</i>	<i>FTE co-convened</i>	<i>FTE Graduate</i>
Christiano		.1	
Bruner	.2		.2
Buchanan		.1	
Gaus			.1
Porter	.2	.1	.1
Rahman			.1
Tarko	.2	.1	.1
Vanderschraaf (1 course release)		.1	.2

The following table provides an example of distribution of faculty workload effort, divided between undergraduate and graduate teaching (consistent, of course, with covering the entire PPEL/PEMS degree requirements).

Example of Graduate Faculty Teaching Distribution for a Year				
<i>Faculty</i>	<i>Course 1</i>	<i>Course 2</i>	<i>Course 3</i>	<i>Course 4</i>
Christiano	PPEL 460/ PEMS 560			
Bruner	PPEL 310	PPEL 340	PEMS 501	PEMS 540
Buchanan	PPEL 437/ PEMS 537			
Gaus	PEMS 550			
Porter	PPEL 301	PPEL 350	PPEL 408/ PEMS 508	PEMS 520
Rahman	AREC 512			
Tarko	PPEL 320	PEMS 555	PPEL 410/PEMS 510	PPEL 496
Vanderschraaf	PEMS 530	PPEL 406/ PEMS 506	PEMS 580	
PEMS 570: Directed Research: Bruner, Gaus, Porter, Tarko, Vanderschraaf				

VII. Sample Plans of Study

Intensive MA Fall
PEMS 501 (3) Formal Methods in PPE PEMS 520 (3) Coordination and Conflict of Interests in Social life PEMS 530 (3) Empirical Methods for PPE PEMS 540 (3) Justice, Philosophical and Formal
Winter Session
PEMS 550 (3) Moral and Social Norms
Spring
PEMS 555 (3) Choice, Evolution and Institutions PEMS 506 (3) Game Theory and the Social Contract PEMS 508 (3) The Economics of the Family PEMS 570 (3) Directed Research
Summer Pre-session
PEMS 580 (3) Current Research Seminar in PPE

AMP Year 1 Fall
PEMS 501 (3) Formal Methods in PPE PEMS 520 (3) Coordination and Conflict of Interests in Social life
Year 1 Spring
PEMS 555 (3) Choice, Evolution and Institutions PEMS 506 (3) Game Theory and the Social Contract
Year 2 Fall
PEMS 530 (3) Empirical Methods for PPE PEMS 540 (3) Justice, Philosophical and Formal PEMS 560 (3) Democracy and Social Choice
Year 2 Spring
PEMS 508 (3) The Economics of the Family PEMS 537 (3) Moral and Social Evolution PEMS 570 (3) Directed Research in PPE

VIII. Student Learning Outcomes

Learning Outcomes:

- (1) Students will be able to critically evaluate current research in the intersection of philosophy, politics and economics.
- (2) Students will be able to identify and investigate substantive issues in social life requiring descriptive analysis using the methods of social philosophy, political science and economics.
- (3) Students will be able to identify and investigate substantive normative issues requiring normative analysis using the methods of social philosophy, political science and economics.
- (4) Students will be able to research at a professional level specific problems of moral and political life using methods and arguments that integrate philosophy, political science and economics.

Curriculum Map ⁸	Outcome 1	Outcome 2	Outcome 3	Outcome 4
PEMS 501, Formal Methods		A		I
PEMS 520, Coordination and Conflict	I	P		I
PEMS 530, Empirical Methods		A		I
PEMS 540, Justice, Philosophical and Formal	I		A	P
PEMS 555, Choice, Evolution and Institutions	A	P	P	I
PEMS 570, Directed Research	A	P	P	A

⁸ I= Introduced; P = Practiced; A = Assessed

IX. Assessment Plan for Student Learning:

Learning Outcome	Source(s) of Evidence	Assessment Measure(s)	Data Collection Points
(1) Students will be able to critically evaluate current research in the intersection of philosophy, politics and economics	Course-embedded assessments in PEMS 555 with PEMS 580, (2) writing sample for admission.	(1) Blind referring of a random sample of five term papers on a 12 point scale from scale: A+ to E., (2) Comparison of writing samples for admission with term selected papers	End of each PEMS 555 and PEMS 580
(2) Students will be able to identify and investigate substantive issues in social life requiring descriptive analysis using the methods of social philosophy, political science and economics.	Course-embedded assessments in PEMS 501 and PEMS 530	Blind referring of course-embedded assessments on a 12 point scale from scale: A+ to E.	At close of PEMS 501 and PEMS 530
(3) Students will be able to identify and investigate substantive normative issues requiring normative analysis using the methods of social philosophy, political science and economics.	(1) Final essay PEMS 540, (2) writing sample for admission.	(1) Blind referring of a random sample of five term papers on a 12 point scale from scale: A+ to E., (2) Comparison of writing samples for admission with term selected papers	At application and close of PEMS 540

<p>(4) Students will be able to research at a professional level specific problems of moral and political life using methods and arguments that integrate philosophy, political science and economics.</p>	<p>Final research paper from PEMS 570 (Directed Research)</p>	<p>Blind referring of the all graduating papers by two readers on scale:</p> <ol style="list-style-type: none">1. Publishable2. Publishable with minor revisions3. Publishable with major revisions4. Not Publishable	<p>At close of PEMS 570.</p>
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X. Program Assessment Plan

Assessment Measure: Degree of Improvements	Source(s) of Evidence	Data Collection Point(s)
<p>Rotating two cycle of overall student learning.</p> <p>In the first year of the cycle evaluation of outcomes regarding:</p> <ul style="list-style-type: none"> ● interdisciplinary research competency ● ability to identify and investigate substantive issues in social life requiring PPE methods <p>In the second year of the cycle, evaluation of student outcomes int terms of:</p> <ul style="list-style-type: none"> ● ability to engage in normative analysis of social life ● ability to research PPE at a professional level. 	<p><i>First year:</i></p> <ul style="list-style-type: none"> ● Course-embedded assessments PEMS 555 and PEMS 570 ● Comparison of writing sample for admission with a submitted course-embedded assessment elective during last semester of MA work. <p><i>Second year:</i></p> <ul style="list-style-type: none"> ● Final essay in PEMS 540 Compared to “Philosophy Paper” required as part of application to program. ● Student research paper from PEMS 570 	<ul style="list-style-type: none"> ● End of each PEMS 555 and PEMS 580 ● At start of degree, at close of last semester of MA work. ● At application and close of PEMS 540 ● At close of last semester of MA work.
Job Placement	Student/Alumni Survey/Linkedin PPE Group	One year after graduation
PhD & Law School Placement	Student/Alumni Survey/Linkedin PPE Group	At graduation; part of alumni survey; continuing on LinkedIn
Academic Program Review	Reviewers’ responses	Year 5 and every 7 years afterwards

XI. Anticipated Student Enrollment

Five Year Projected Enrollment					
	Year 1	Year 2	Year 3	Year 4	Year 5
AMP	6	8	10	11	12
Intensive MA*	--	4	6	7	8
Total AMP+Intensive	6	12	16	18	20
Global**	--	--	9	12	14

*Starts one year later

** Depending upon UA Global Contracts

Data for AMP: Current PPEL major survey and comparison with UC/Irvine (now 6-7 enrollments). Survey from current students indicate considerably higher interest and, as noted above, Arizona PPEL students are especially well-prepared to undertake graduate work.

<i>Are you interested in MA in PPE at Arizona?</i>		
	High/Yes	17
	Perhaps	10
	No	25
<i>Would this be professional or preparation for PhD?</i>		
	Prof	16
	PhD	7
<i>Are you interested in AMP at Arizona?</i>	High/Yes	28
	Medium/Maybe	9
	No	8

Note that current admission to Advanced Standing have increased by one-third from the time if the above data.

Data for Intensive MA: The University of Pennsylvania obviously has many advantages: it is close to New York and the Penn students are selected from cohort with high career expectations. Moreover, while the Arizona MA has an experimental and behavior component (especially Moral and Social Norms), that is not its main focus. Estimates are

based on a very high discount factor, predicting only 10% of Penn’s enrollments (see Section I).

XII. Anticipated Degrees Awarded

Five Year Projected Degrees Awarded (May-June)					
	<i>2022</i>	<i>2023</i>	<i>2024</i>	<i>2025</i>	<i>2026</i>
AMP	6	9	10	10	11
Intensive MA*	--	4	6	7	8
Global**	--	--	8	10	12

*Starts one year later

** Depending upon UA Global Contracts

The PPEL major has something approaching 95% completion within two years on entering Advanced Standing. There is an extraordinarily high probability that students who start the degree will finish.

XIII. Program Development Timeline

Marketing

AMP MA. Current PPEL BA students are the first focus: this is a tight community, and spreading word of the degree and its opportunities should be relatively straightforward. The aim is for the degree to be announced in the Fall of 2020 to the PPEL cohort who begin their senior year in the **Fall of 2021**, so that they can begin taking graduate courses in the **Fall of 2021**.

Intensive MA. This will require more intense marketing. The aim is to admit the first students in the **Fall of 2022**. Marketing plans include:

- Announcement via the National PPE Society email list and website and in Philosophy, Political Science and Economics publications.
- Ads in educational publications, both in the US and internationally.
- A slide added to all faculty presentation at another university.
- Tours of main undergraduate PPE programs.
- Develop and send posters/flyers every PPE major Philosophy, Political Science Department.
- An inaugural national conference, with eminent PPE speakers and participation by directors of PPE majors in the United States.
- Direct email to all United States PPE undergraduate programs.
- PEMS will also work with SBS Marketing to develop a marketing plan.
- PPE is especially well-placed to recruit women. As explained in the Section XIV, women are drastically underrepresented in both undergraduate and graduate economics. PPE, which has a more inclusive and diverse scholarly community, thus is well-placed to recruit women who have majored in Economics and who wish to pursue graduate education in a more diverse setting. PEMS thus plan to prominently advertise the degree in the announcements of the Society of Women in Economics and related organizations.
- Because PPEL (our undergraduate degree) is represented on UA global micro-campuses (presently, UPC in Peru and soon UDLA in Ecuador), Arizona has the unique opportunity to build an international community of graduate students, including those from Latin America. Building on our international presence in non-European communities is a major aim of the PEMS MA degree. We shall spend considerable effort working with our global partners to diverse attract MA students to our program.

The Intensive MA will be marketed as both (1) a professional degree and (2) a pathway to further graduate work, especially PhDs in Philosophy, as well as Political Science.

The professional pathways for the MA degree are indicated by the highly successful BA in PPEL. Masters students are apt to find themselves in the same general fields, but at more senior and better paid positions, as shown by the Strada data (see section I). Recent survey of graduated PPEL students found the following rough breakdown of post-university careers:

Law	46%
Business	25%
Non-profit	12%
Consultant/Analyst	15%
Policy	5%

There is of course a strong bias in reporting towards the more successful students. Law clearly predominated, but consultancy, analysis, non-profits and business all are significant professional pathways, which would be stressed in marketing.

It is worth emphasizing that, although PPEL graduates only 30 student a year, they have been extraordinarily successful, with 30-40% going on to post-graduate work. The educational philosophy of the department has been to focus intensive efforts of a small cohort of highly motivated students, who have a high probability of pursuing careers satisfying to them, and important for the region, state and nation.

Recruitment

Plans for recruitment of AMP students is implied by the above.

For the Intensive MA, recruitment will be focused primarily on (in order):

- United States PPE BA graduates
- BAs in the Philosophy
- BAs in Political Science and Economics
- Foreign students: There are very few US Universities for foreign students wishing to do advanced work in PPE.

XIV. Diversity and Inclusion

The PPEL program has prided itself on how popular it is with women students. Economics is often considered unwelcoming to women; certainly women are drastically underrepresented in undergraduate economics. “Nationwide there are about three males for every female student majoring in economics and this ratio has not changed for more than 20 years.”⁹ In PPEL, roughly half our students are female. Moreover, data indicates that women tend to do considerably less well in their economics courses than men.¹⁰ In the ten-year history of the PPE major, over 50% of our best student awards have gone to female students, who have gone on to important careers in policy, law and academia. Consider for example the comments of one of our former outstanding students, Aleksandra Evelyn Petkovic:

“I have found the PPEL program to be a challenging, but extremely rewarding experience. It is from this degree that I was able to find my passion for academics. The critical thinking skills I have gained from PPEL have not only helped me in my classes, but in everyday life. I am leaving this program with a different way of thinking and viewing the world than when I started. This program will provide you with the analytical tools that can be applied to a number of different jobs and career paths. *One of my favorite aspects of this program has been being able to take all of my classes with a small group of motivated students. I was able to learn and be pushed by my peers in a way that has really shaped my undergraduate experience.* If a student is willing to put in the work and the effort, I am confident that they will finish this degree prepared to take whatever next step they wish to pursue. PPEL offers the unique experience of being able to take their advanced courses with top-ranked faculty. The PPEL faculty are truly remarkable and are dedicated to helping their students succeed and learn. I feel extremely lucky to have stumbled across this program and would recommend it to any student wanting to explore the social sciences.”

Unlike many majors, PPEL is motivated by an explicit underlying educational philosophy: as Ms. Petkovic indicates, learning is focused on collective exploration of common problems. Explicitly and continually, students are encouraged to see that their diverse identity, ideological, religious and intellectual perspectives allow them to gain from each other, and to collectively solve problems better than they can do alone. PPEL has been devoted to excellence but to collective inquiry, rather than to competition for grades. PPEL spends great effort building trust and understanding among a diverse cohort of students and

⁹ Claudia Golin, *Undergraduate Women in Economics* (UWE)
<<https://scholar.harvard.edu/goldin/UWE>>

¹⁰ See, for example the data for grades in first year Harvard University economics courses in Karen E. Dynan and Cecilia Elena Rouse, “The Underrepresentation of Women in Economics: A Study of Undergraduate Economics Students,” *The Journal of Economic Education*, vol. 28, No. 4 (Autumn, 1997), pp. 350-368. The causes of this underrepresentation are complex: the “unwelcoming” hypothesis is but one explanation.

life experiences. This same educational philosophy will permeate all PEMS programs. PEMS seeks to show students that excellence and inclusivity are allies.

PPEL has been fortunate to have had, on average, a faculty of about 60% male and 40% female teaching the core undergraduate courses. The PEMS faculty has fallen below this, to only 25% — of course this is a very small population. (PEMS lost one female candidate to Harvard Business School; she only considered us and them. They offered \$300,000 for a starting assistant professor. We lost). One of our faculty is of Asian heritage, the other an immigrant. Bringing together a diverse and excellent faculty is always a work in progress, and we shall not stop. We expect further Post-doctoral appointments, which will increase our perspectival diversity. We are in this regard delighted that Tauhidur Rahman, (Associate Professor of Economics, Department of Agricultural and Resource Economics) has joined PEMS as an associate faculty member.

PEMS has been at the forefront in the College of Social and Behavior Sciences is expanding to micro-campus. This radically increases the diversity of the PEMS student body and its faculty. This semester we have welcomed Omar Awapara and Carlos Adrianzen have joined PPEL and Claudia Sicoli will soon be coming to PPEL. As PEMS becomes global, we must remember that the Tucson campus is only part of a wider network. Should UA Global succeed in taking the PPE MA to microcampuses, this diversity will be enhanced.

XV. ABOR Table

Name of Proposed Academic Programs: Master of Arts in PPE
Academic Department: Department of Political Economy and Moral Science
Geographic Site: Tucson
Instructional Modality: In person Tucson/Global flipped
Total Credit Hours: 30
Proposed Inception Term: Fall 2021
<p>Brief Program Description:</p> <p>This proposal involves two MA pathways</p> <p>(a) An Accelerated Master’s program building upon the highly successful undergraduate major in Philosophy, Politics, Economics & Law (to be offered on global micro-campuses).</p> <p>(b) A one-year intensive residential degree in PPE for students with BAs in, for example, Philosophy, Political Science and Economics.</p> <p>The degree is focused on courses linking normative analysis to economic and political sciences. Students are given a firm grounding in empirical methods and analyses of markets and government, and normative (ethical) tools for evaluating their performance.</p> <p>The PPE MA is based on the Department of Political Economy and Moral Science educational philosophy that both academic environment and the workplace in the twenty-first century requires interdisciplinary participants as key actors in team-based work, but that interdisciplinary instruction is demanding. Unlike programs that simply draw on a wide variety of disciplinary courses and leave the students to draw interdisciplinary insights, the Department of Political Economy and Moral Science stresses interdisciplinary connections and methods in all its courses. The educational mission is to train individuals who are able to use the tools and concepts of the economics, philosophy and politics to participate in broader teams. Central to our vision is that in the twenty-first century those trained in disciplines will of course still be tremendously valued, but they will not work on their own, but function in collaborate teams, in which interdisciplinary skills will have a premium.</p> <p>It is critical to stress that the PPE MA in no way duplicates economics or political science degree. PPE is an emerging discipline which (1) considers the normative (ethical) analysis of markets and governments and (2) employs the tools of economics to explore social dilemmas and problems of moral coordination posed by diverse</p>

societies. The 50 undergraduate programs in the US (and over 350 world-wide) indicate that it is a wide-spread response to the felt need to integrate philosophical and empirical analyses in understanding contemporary society and its problems.

The professional pathways for the MA degree are indicated by the highly successful BA in PPEL. Masters students are apt to find themselves in the same general fields, but at more senior and better paid positions, as shown by the Strada data (see section I). Recent survey of graduated PPEL students found the following rough breakdown of post-university careers:

Law	46%
Business	25%
Non-profit	12%
Consultant/Analyst	15%
Policy	5%

Student Learning Outcomes and Assessment Plans

Learning Outcomes, Intensive MA Pathway and Accelerated MA Degrees:

Students will be able to critically evaluate current research in the intersection of philosophy, politics and economics.

Students will be able to identify and investigate substantive issues in social life requiring descriptive analysis using the methods of social philosophy, political science and economics. Students will be able to identify and investigate substantive normative issues requiring normative analysis using the methods of social philosophy, political science and economics.

Students will be able to research at a professional level specific problems of moral and political life using methods and arguments that integrate philosophy, political science and economics.

Learning Outcome	Source(s) of Evidence	Assessment Measure(s)	Data Collection Points
(1) Students will be able to critically evaluate current research in the intersection of philosophy, politics and economics	Course-embedded assessments in PEMS 555 with PEMS 580, (2) writing sample for admission.	(1) Blind referring of a random sample of five term papers on a 12 point scale from scale: A+ to E., (2) Comparison of writing samples for admission with term selected papers	End of each PEMS 555 and PEMS 580
(2) Students will be able to identify and investigate substantive issues in social life requiring descriptive analysis using the methods of social philosophy, political science and economics.	Course-embedded assessments in PEMS 501 and PEMS 530	Blind referring of course-embedded assessments on a 12 point scale from scale: A+ to E.	At close of PEMS 501 and PEMS 530

(3) Students will be able to identify and investigate substantive normative issues requiring normative analysis using the methods of social philosophy, political science and economics.	(1) Final essay PEMS 540, (2) writing sample for admission.	(1) Blind referring of a random sample of five term papers on a 12 point scale from scale: A+ to E., (2) Comparison of writing samples for admission with term selected papers	At application and close of PEMS 540
(4) Students will be able to research at a professional level specific problems of moral and political life using methods and arguments that integrate philosophy, political science and economics.	Final research paper from PEMS 570 (Directed Research)	Blind referring of the all graduating papers by two readers on scale: 1. Publishable 2. Publishable with minor revisions 3. Publishable with major revisions 4. Not Publishable	At close of PEMS 570.

Assessment Measure: Degree of Improvements	Source(s) of Evidence	Data Collection Point(s)
<p>Rotating two cycle of overall student learning.</p> <p>In the first year of the cycle evaluation of outcomes regarding:</p> <ul style="list-style-type: none"> ● interdisciplinary research competency ● ability to identify and investigate substantive issues in social life requiring PPE methods <p>In the second year of the cycle, evaluation of student outcomes int terms of:</p> <ul style="list-style-type: none"> ● ability to engage in normative analysis of social life ● ability to research PPE at a professional level. 	<p><i>First year:</i></p> <ul style="list-style-type: none"> ● Course-embedded assessments PEMS 555 and PEMS 570 ● Comparison of writing sample for admission with a submitted course-embedded assessment elective during last semester of MA work. <p><i>Second year:</i></p> <ul style="list-style-type: none"> ● Final essay in PEMS 540 Compared to “Philosophy Paper” required as part of application to program. ● Student research paper from PEMS 570 	<ul style="list-style-type: none"> ● End of each PEMS 555 and PEMS 580 ● At start of degree, at close of last semester of MA work. ● At application and close of PEMS 540 ● At close of last semester of MA work.
Job Placement	Student/Alumni Survey/Linkedin PPE Group	One year after graduation
PhD & Law School Placement	Student/Alumni Survey/Linkedin PPE Group	At graduation; part of alumni survey; continuing on Linkedin
Academic Program Review	Reviewers’ responses	Year 5 and every 7 years afterwards

Projected Enrollment for the First Three Years:

	2022	2023	2024	2025
AMP	6	9	10	10
Intensive MA*	--	4	6	7
Global**	--	--	9	12

*Starts one year later

** Depending upon UA Global Contracts

Evidence of Market Demand:

Extensive markets analysis was conducted that indicated increasing demand for students trained in the skills characteristic of the PPE program.

Highlights:

State-wide

- Given the university’s employment classification categories:
- There were 715 job postings in the last 12 months.
- The number of jobs is expected to grow over the next 10 years.
- The average salary in Arizona for graduates of your program is \$59,842

Nationally

- Given the university’s employment classification categories:
- There were 56,273 job postings in the last 12 months.
- The number of jobs is expected to grow over the next 10 years.
- The average salary in the nation for graduates of your program is \$70,989

As a recent report of the Strada Foundation report on educational training notes. report notes, though “they never catch up to STEM graduates in earnings, but liberal arts majors do perform well in the labor market, achieving substantially better outcomes than workers with less education. Among workers with liberal arts BAs, 82 percent are working (70 percent full-time), and the average full-time worker earns \$55,000 annually, \$20,000 more than high school graduates, but \$5,000 less than the average college graduate... Two out of five liberal arts graduates, however, go on to earn graduate degrees, **which further boosts their earnings to \$76,000 annually, on average.**”¹¹

Tucson’s recent employment growth rate has been one of the lowest in the southwest.¹² It is critical to the mission of the University to prepare Tucson and the Arizona for future developments in employment prospects, and in particular to encourage “high tech” employment in Tucson and the state. Such employment is expected to be far more

¹¹ *Robot-Ready: Human+ Skills for the Future of Work*, p. 10.

¹² <https://mapazdashboard.arizona.edu/economy/employment-growth-industry>

robust in the face of automation. Educational decision makers have tended to premise their priorities in this regard to then so-called “STEM” disciplines. While there is no doubt that these are critical to technological change, recent studies have indicated that liberal arts students are in far more demand in tech industries than is generally thought. A recent report by the Strada concludes that

“... most of the current literature on the future of work underscores this growing need for human skills such as flexibility, mental agility, ethics, resilience, systems thinking, communication, and critical thinking. Northeastern University President Joseph Aoun has devoted an entire book to the concept of “humanics”: “a new model of learning that enables learners to understand the highly technological world around them and that simultaneously allows them to transcend it by nurturing the mental and intellectual qualities that are unique to humans—namely their capacity for creativity and mental flexibility.”¹³

“Humanomics” is, interestingly, the title of the Chapman University’s humanities and economics program (a PPE-related program): it is that spirit which motivates the proposed Arizona Master in PPE. To enable University of Arizona liberal arts majors to compete in the future employment requires an integration of technical skills (computer-based modeling, experimental economics) with humanistic skills. Integrating humanistic, ethical and technological skills is a critical part of development of a knowledge-based economy in Southern Arizona and the State. Too often humanities students fail to understand formal analysis and modelling, while modelers can miss the human implications of their work. As the Strada report concludes, their

“...findings illustrate areas for improvement when it comes to cultivating learners’ abilities to integrate human and technical skills. Liberal arts programs, in particular, cannot ignore signals in the labor market. These provide the key to clarifying exactly how human skills transfer and develop into granular skills that are in demand.”

This is the core mission of the Department of Political Economy and Moral Science. Graduates in the MA program will have the skills to be team leaders integrating technical (“STEM” and technical economists/ finance experts) members with humanistic and stakeholder concerns. Fortune 500 tech companies such as Salesforce have launched committees specifically designed to bring humanistic and technical employees together.

Nation

The demand for PPE Bachelor programs will continue their remarkable growth (now over 50 in the United States, 350 world-wide). Yet there is an amazing dearth of postgraduate courses in the United States to provide formal training in this integrationist discipline. One of the core missions of the PPE MA is to provide a generation of philosophers, economists and political scientists who are able not only to integrate the fields in their own work, but to teach those who will become PPE teachers themselves.

¹³ Strada Institute for the Future of Work and Emsi (a Strada Education Network affiliate), *Robot-Ready: Human+ Skills for the Future of Work*, available at <<<https://www.economicmodeling.com/robot-ready-reports/>>>

<p>One of the main career paths for all our MA students will be to enter PhD programs in especially Philosophy, since at this point by far most PPE BA majors are housed in Philosophy Departments. Should the growth of PPE majors continue at its present rate, in the future a PhD program in PPE may well be highly desirable. But, after study, PEMS has decided that at this time as Master's, some of whose graduates will enter into Philosophy (and, to a lesser extent, Political Science) PhD programs, is the most effective way to train the next generation of PPE instructors.</p>		
<p>Similar Programs Offered at Arizona Public Universities: None.</p>		
<p>New Resources Required? (i.e. faculty and administrative positions; infrastructure, etc.): The Department of Political Economy and Moral Science was founded in the plan such a degree would be instituted. The resources are now at the University to deliver this program with no further expense.</p>		
<p>Program Fee/Differentiated Tuition Required? Estimated Amount: \$600</p>	<p>YES X</p>	<p>NO</p>
<p>Program Fee Justification: Courses will include costs of running experiments; lectures by eminent PPE specialist throughout the curriculum.</p>		
<p>Specialized Accreditation?</p>	<p>YES</p>	<p>NO X</p>
<p>Accreditor:</p>		

Appendix A

United States PPE-related Majors (minors and certificates noted)

Austin College
Binghamton University (under the designation of "PPL" - replacing economics with law)
Bowling Green State University (under the designation of "PPEL" - with law)
Carroll University
Carnegie Mellon University (under the designation "Ethics, History, and Public Policy", abbreviated "EHPP")
Chapman University (under the designation "Humanomics.")
Claremont McKenna College
Criswell College
Denison University
Drexel University
Duke University (certificate)
Eastern Oregon University
Emory & Henry College
George Mason University
Georgia State University
Juniata College
The King's College (New York)
La Salle University
Mercer University
Minnesota State University, Mankato
Mount St. Mary's University
Murphy Institute (Tulane University, under the designation "Political Economy")
Northeastern University
Pomona College
Rutgers University–New Brunswick (certificate)
Seattle Pacific University
Suffolk University
The Ohio State University
Transylvania University
University of Alabama at Birmingham (as a concentration of an Economics degree)
University of Akron
The University of Arizona (under the designation "PPEL" - with law)
The University of Iowa (under the designation "Ethics & Public Policy")
The University of Michigan (honors program)
The University of Maryland
University of North Carolina at Chapel Hill (minor)
University of Notre Dame[86] (minor)
University of Pennsylvania
University of Pittsburgh

University of Richmond (under the designation "PPEL" - with law)

Taylor University

University of Virginia (under the designation "PPL" - replacing economics with law)

University of Washington Tacoma

University of Washington Bothell (under the designation "Law, Economics & Public Policy", abbreviated "LEPP")

Virginia Tech

Wesleyan University (under the designation "College of Social Studies")

Western Washington University

Wheeling Jesuit University (under the designation "political and economic philosophy")

Xavier University (under the designation "Philosophy, Politics, and the Public", abbreviated "PPP")

Yale University (under the designation "ethics, politics and economics", abbreviated "EP&E")

Appendix B

PPE-related MA Programs

United States

University of California-Irvine (accelerated Master's in PPE)

University of Pennsylvania (Master of Behavioral and Decision Sciences, outgrowth of their undergraduate PPE program)

Duke: M.A. Analytical Political Economy (MAPE)

Peter F. Drucker and Masatoshi Ito Graduate School of Management, Claremont Graduate University, Master of Arts in International Political Economy (MAIPE).

Georgetown University, M.A. in Political Economy.

New School, Global Political Economy and Finance (MA)

Europe

Charles University, Prague, Czech Republic

Leiden University, Netherlands

University of Bayreuth, German

University of Bern, Switzerland

University of Vienna, Austria

University of Graz, Austria

University of Groningen, Netherlands

University of Hamburg, Germany

Witten/Herdecke University Germany

University of Zurich, Switzerland

BUDGET PROJECTION FORM
Name of Proposed Program or Unit: Master of Arts -PPE

Budget Contact Person: Gayle Siegel	Projected		
	1st Year 20 21 - 20 22	2nd Year 20 22 - 20 23	3rd Year 20 23 - 20 24
METRICS			
Net increase in annual college enrollment UG			
Net increase in college SCH UG			
Net increase in annual college enrollment Grad	9	14	17
Net increase in college SCH Grad			
Number of enrollments being charged a Program Fee	9	14	17
New Sponsored Activity (MTDC)			
Number of Faculty FTE			
FUNDING SOURCES			
<u>Continuing Sources</u>			
UG RCM Revenue (net of cost allocation)			
Grad RCM Revenue (net of cost allocation)			
Program Fee RCM Revenue (net of cost allocation) fee is \$600 per te	7,903	12,294	14,928
F and A Revenues (net of cost allocations)			
UA Online Revenues			
Distance Learning Revenues - funds from Global program in Peru	25,000	20,000	20,000
Reallocation from existing College funds (attach description)			
Other Items (attach description)			
Total Continuing	\$ 32,903	\$ 32,294	\$ 34,928
<u>One-time Sources</u>			
College fund balances			
Institutional Strategic Investment			
Gift Funding			
Other Items (attach description)			
Total One-time	\$ -	\$ -	\$ -
TOTAL SOURCES	\$ 32,903	\$ 32,294	\$ 34,928
EXPENDITURE ITEMS			
<u>Continuing Expenditures</u>			
Faculty			
Other Personnel * PPEL 550 & 580 require experiments & speakers	16,500	16,500	16,500
Employee Related Expense	5,181	5,181	5,181
Graduate Assistantships			
Other Graduate Aid			
Operations (materials, supplies, phones, etc.)			
Additional Space Cost - Social Science 126 grad offices	7,720	7,720	7,720
Other Items (attach description)			
Total Continuing	\$ 29,401	\$ 29,401	\$ 29,401
<u>One-time Expenditures</u>			
Construction or Renovation			
Start-up Equipment			
Replace Equipment			
Library Resources			
Other Items (attach description) marketing materials	2,500		
Total One-time	\$ 2,500	\$ -	\$ -
TOTAL EXPENDITURES	\$ 31,901	\$ 29,401	\$ 29,401
Net Projected Fiscal Effect	\$ 1,002	\$ 2,893	\$ 5,527

Graduate Major Peer Comparison Chart-select two peers for completing the comparison chart from (in order of priority) [ABOR-approved institutions](#), [AAU members](#), and/or other relevant institutions recognized in the field. The comparison chart will be used to identify typically required coursework, themes, and experiences for majors within the discipline. The comparison programs are not required to have the same degree type and/or major name as the proposed UA program. Information for the proposed UA program must be consistent throughout the proposal documents..

Program name, emphasis (sub-plan) name (if applicable), degree, and institution	Proposed UA Program: MA in PPE	University of California/Irvine MA in PPE	University of Pennsylvania MA Decision-making and Behavioral Science
Current # of enrolled students		7	40
Major Description. Includes the purpose, nature, and highlights of the curriculum, faculty expertise, emphases (sub-plans; if any), etc.	In both private and public enterprises, understanding the interrelation between economic knowledge and ethical appraisal has become urgent. As has become increasingly apparent, economic decisions have ideological and moral consequences, and are seldom simply technical. In corporate and policy-making teams an increasingly important role is occupied by those who grasp the nexus between these fields. The Arizona MAs in PPE provide cutting-edge instruction by some of the world’s leading scholars in Philosophy, Politics and Economics to equip future leaders who, as team members, can bridge these fields, and future scholars who explore the complexities of this nexus.	“PPE aims at providing students with a broad yet thorough education in the three constitutive fields: Philosophy, Political Science and Economics. The program’s objective is to train students to critically evaluate individual and collective decision-making and public policy. Philosophy equips students with tools to reason rigorously and facilitates ethical reflection. Economics provides tools for evaluating individual and collective decision-making. And Political Science provides an understanding of the real contexts in which ethical and economic principles must be applied. Thus the three disciplines inherent in PPE are mutually supportive and a background in each is necessary for an individual to gain a robust understanding of social phenomena.”	“ Penn’s Master of Behavioral and Decision Sciences (MBDS) is informed by contemporary theories and research methods of behavioral economics, decision sciences, network analysis and public policy. Our program equips students with theoretical and practical tools to address a variety of real-life problems, putting you ahead of the curve in a growing field of study. “Housed in the School of Arts and Sciences, the MBDS program is rooted in the social sciences—the skills we teach help you make a positive, sustainable impact in your area of interest”
Target careers	<ul style="list-style-type: none"> ● PhD work in Philosophy & Political Science ● Law School ● Consulting ● NGOs and Development 	“PPE may be of considerable interest to students interested in obtaining additional education focused on ethics, logic, decision-making, and public policy. This is also excellent	““Our interdisciplinary degree prepares you to understand how individuals and groups make decisions, and how to affect those decisions. Our world-renowned faculty and researchers are also leading practitioners in

	<ul style="list-style-type: none"> ● Business 	preparation for students considering law school.”	their fields. With their expertise, you are guided to apply what you learn to real-life problems in areas such as social and public policy, law, education, business and medicine.
Total units required to complete the degree	10 courses (3 units each)	9 courses (4 units each)	All students are expected to take five core classes, three elective courses and one dedicated capstone research project to earn the nine c.u. required for the Master of Behavioral and Decision Sciences.
Pre-admission expectations (i.e. academic training to be completed prior to admission)	<p>For Intensive MA: Bachelor’s in Philosophy, Political Science or related discipline.</p> <p>For AMP: Completion of the first year core courses in the PPEL major. They are:</p> <p>PPEL 301: Fundamentals of Economics (Microeconomics)</p> <p>PPEL 310: PPEL 310 (3 units) Economic Analyses in Philosophy and Politics. (Game Theory)</p> <p>PPEL 320 (3 units) Classics in Political Economy</p> <p>PPEL 326 (3 units) Law Legal Theory</p>	<p>Undergraduate requirements:</p> <p>Completion of a B.A. in one of the associated departments (Philosophy, Political Science, Economics, or International Studies)</p> <p>=Six additional courses total – including at least two upper division courses – in the two areas that are not the student’s major. The areas are Philosophy/Logic and Philosophy of Science, Economics, and Political Science/International Studies</p> <ul style="list-style-type: none"> ● <i>Philosophy</i> major would need to take three courses in Economics (including one upper div) and three courses in Political Science/IS (including one upper div) ● An <i>Economics</i> major would need to take three courses in Philosophy/LPS (including one upper div) and three courses in Political Science/IS (including one upper div) ● <i>Pol.Sci.</i> or <i>GIS</i> major would need to take three courses in Philosophy/LPS (including one upper div) and three courses in Economics (including one upper div) ● In addition, <i>we strongly suggest</i> students take some courses that will prepare them to deal with technical material, such as math and logic 	<p>The program has two prerequisite courses: (1) introductory statistics and (2) microeconomics or game theory.</p> <p>For students who lack sufficient background in one or all areas, the prerequisite courses are offered through the College of Liberal and Professional Studies during the summer prior to the start of the program in the fall term.</p>

<p>Major requirements. List all major requirements including core and electives. If applicable, list the emphasis requirements. 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.</p>	<ul style="list-style-type: none"> •PEMS 508 (3) Economics of the Family† •PEMS 506 (3) Game Theory and the Social Contract† •PEMS 510 (3) Formal Methods of PPE (new) •PEMS 520 (3) Coordination and Conflict of Interests in Social Life (new) PEMS 530 (3) Data Science for PPE (new) •PEMS 540 (3) Justice, Philosophical and Formal (new) PEMS 550 (3) Research Seminar Moral and Social Norms (new) •PEMS 555 (3) Choice, Evolution and Institutions (new) •PEMS 570(3) Directed Research(new) •PEMS 580 (3) Graduate Seminar in Current Research (new) <p>† To be co-convened: currently existing only in 400-level; 500 level to be created.</p>	<ul style="list-style-type: none"> ● LPS 244/LPS 205A:Proseminar in PPE ● Econ 243A/ Econ 210A <p>Proseminar in PPE II(4)</p> <ul style="list-style-type: none"> ● PolSci 232A/ PolSci 252E Proseminar in PPE III (4) ● Six graduate courses (4 each) approved by the director of the PPE program, two of each area ● A final, oral defense in which the student and at least two PPE faculty members, including the PPE director, will discuss their work. ● In preparation, the student will either submit <ul style="list-style-type: none"> ◆ an MA thesis to be completed over the course of the graduate year under faculty supervision ◆ or, a final, term length paper/project 	<ul style="list-style-type: none"> ● BDS 501 Behavioral Science: Theory and Application of Experimental Methods ● BDS 502 Social Norms & Informal Institutions ● BDS 503 Behavioral Public Policy BDS 521 Judgments & Decisions ● Quantitative Core—choose ONE from the following: <ul style="list-style-type: none"> ◆BDS 522 Statistical Reasoning for Behavioral Science ◆BDS 516 Data Science & Quantitative Modeling <p>The final capstone research project for the Master of Behavioral and Decision Sciences is an independent study experience. Throughout the process, you connect with faculty members in your area of concentration to determine appropriate final projects or ways to participate in applying research, such as completing an internship or conducting fieldwork</p>
<p>Research methods, data analysis, and methodology requirements (Yes/No). If yes, provide description.</p>	<p>YES</p>	<p>NO</p>	<p>YES</p>
<p>Internship, practicum, applied course requirements (Yes/No). If yes, provide description.</p>	<p>YES: Final Directed Research Project working with a faculty member as an independent study experience. Throughout the process, students work with faculty members in your area of concentration to determine appropriate final projects or ways to participate in applying research, such as completing an internship or conducting fieldwork.</p>	<p>NO</p>	<p>YES: The final capstone research project for the Master of Behavioral and Decision Sciences is an independent study experience. Throughout the process, you connect with faculty members in your area of concentration to determine appropriate final projects or ways to participate in applying research, such as completing an internship or conducting fieldwork</p>

Master thesis or dissertation required (Yes/No). If yes, provide description.	NO	Optional	NO
Additional requirements (provide description)			

*Note: comparison of additional relevant programs may be requested.



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April 1, 2020

Dr. Gerald Gaus
Department Head
Political Economy and Moral Science
Social Sciences, Room 217A
Tucson, AZ 85721

Dear Jerry:

I have reviewed the Department of Political Economy and Moral Science (PEMS) proposal for an MA in PPE, and I note PEMS plans to offer their Advanced Placement Masters to microcampuses through UA Global. I fully support the plan, and concur it has good prospects for being adopted globally.

Sincerely,

Brent White
Vice Provost, Global Affairs
Dean, Global Locations



March 27, 2020

Dr. Gerald Gaus
Professor and Department head
Department of Political Economy and Moral Science (PEMS)
University of Arizona

Dear Dr. Gaus,

This letter details my strong support for the proposed Master of Arts (MA) triad in Philosophy, Politics, and Economics (PPE) from the Department of Political Economy and Moral Science (PEMS). This program is a natural extension to the successful BA Philosophy, Politics, Economics and Law (PPEL) that has both grown over the past 3 years and retained a high student quality. I have been most impressed with the number of student government leaders that are in the PPEL major.

I started following this program under David Schmitz's leadership and you and I have worked together to help with PEMS resources, faculty hiring, and the relationship between PEMS and the Center for the Philosophy of Freedom. I have appreciated your willingness to work with others and to try ideas that are sometimes a bit out of the box. It is critical that the University support interdisciplinary programs like PPEL as the most important problems facing society include elements of philosophy, politics, economics, and law. I think that the COVID-19 pandemic and the notion of "social distancing" is an excellent example where there are clear ethical/philosophical issues trading off versus economic issues. All of this operates in a political system that creates its own set of objectives. This problem – like others – will not be solved by a simple silver bullet of technology. That is not easy for an engineer to say, but as I have matured, these social issues have become more interesting to my own thoughts on effective problem solving.

I have read the entire proposal and have made a few comments. I see many positives in having such an MA degree and I think that this will help the University as well as the PEMS department. Here are a few:

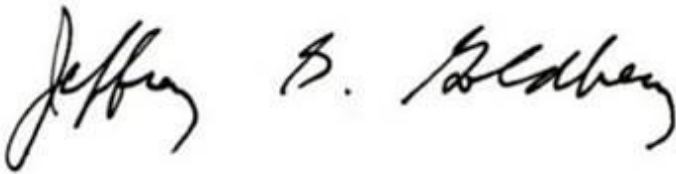
- This degree will meet a need for undergraduates to continue their education. I would hope that far more than PPEL students will be the target market. I could easily see a technical BS/PPE MA combination that would be attractive to students and help to develop the policy makers of the future.
- I think that the PPE MA will help faculty in other departments (HIS, PHIL, ECON, G&PP, AREC, ...) to engage with faculty in PEMS and visa versa. Based on my discussions with faculty in some of these programs, there is a great deal of research work campus-wide in the PEMS areas. A graduate program can be a strong catalyst for research collaborations.

- I believe that there will be demand from graduate students in other colleges for these MA courses (please consider a PhD minor!) for students interested in decision making and the relation to public policy. I strongly believe that ALL future leaders need to understand quantitative strategies for finding solutions as well as determining the broad impact those solutions will have on society. This was clearly missing in my engineering education (and it would have been handy). “As has become increasingly apparent recently, decisions have economic, ideological, and moral consequences regardless of the level of technical complexity simply. I would hope that some graduate degrees would require this type of content.
- I think that this program links well with the University’s new efforts in Washington DC. There will be opportunities for internships and there will be many opportunities for faculty to develop case studies and exercises for students from across the campus. I could even see a case/debate competition associated with the program centered around a contemporary public policy theme.
- We are regularly critiqued that as a University, we only have a single dominant political view. I believe that programs such as the PPE MA help to show people that we are broader and far more thoughtful than current public perception.
- I am intimately familiar with current education program thoughts in the Center for the Philosophy of Freedom, and the PPE MA is not an overlap with the Law/Economics direction of the Center. The program goals and target markets are far different, and the program content is also different. There may be an opportunity to use courses from both programs in the other program, but that is a feature, not a bug.

Jerry, thanks for your leadership in developing such an interesting and highly needed program. I look forward to seeing PEMS develop further.

Good luck in this approval process.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey B. Goldberg". The signature is written in a cursive, flowing style.

Jeffrey B. Goldberg
Special Advisor to the President
Dean Emeritus of Engineering
Professor Systems and Industrial Engineering



Jerry Gaus <jerrygaus@gmail.com>

FW: PPE MA proposal

Turner, Jason - (jasonturner) <jasonturner@arizona.edu>

Tue, Mar 31, 2020 at 4:55 PM

To: "Siegel, Gayle R - (gayles)" <gayles@arizona.edu>

Cc: "Gaus, Gerald F - (ggaus)" <ggaus@arizona.edu>

I have now had a chance to review the draft proposal, and the Department of Philosophy has no objections at all to the MA proposal. We are also delighted to have PHIL 539 listed as an elective for this program, and confirm that Tom Christiano will generally be available to teach PEMS 560.

Very best wishes,

Jason Turner

--

Dr Jason Turner

Head, Department of Philosophy

The University of Arizona

From: Siegel, Gayle R - (gayles) <gayles@arizona.edu>**Sent:** Tuesday, March 31, 2020 3:13 PM**To:** Turner, Jason - (jasonturner) <jasonturner@arizona.edu>**Cc:** Gaus, Gerald F - (ggaus) <ggaus@arizona.edu>

[Quoted text hidden]

[Quoted text hidden]



Jerry Gaus <jerrygaus@gmail.com>

Proposed MA degrees in PPE

3 messages

Schlager, Edella - (schlager) <schlager@arizona.edu> Sun, Mar 29, 2020 at 10:48 AM
To: "Gaus, Gerald F - (ggaus)" <ggaus@arizona.edu>, "Siegel, Gayle R - (gayles)" <gayles@arizona.edu>

Dear Jerry,

Having reviewed the proposal for MA degrees in PPE that you shared with me, SGPP supports the creation of the degrees. I do not anticipate that the new degrees will have a negative impact on SGPP's existing programs. Rather, the new degrees may provide opportunities for future collaboration.

Best wishes,

Edella

Edella Schlager

The Melody S. Robidoux Foundation Fund Leadership Chair

Director

School of Government and Public Policy

Siegel, Gayle R - (gayles) <gayles@arizona.edu> Sun, Mar 29, 2020 at 10:54 AM
To: Jerry Gaus <jerrygaus@gmail.com>

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From: Schlager, Edella - (schlager) <schlager@arizona.edu>
Sent: Sunday, March 29, 2020 10:48:16 AM
To: Gaus, Gerald F - (ggaus) <ggaus@arizona.edu>; Siegel, Gayle R - (gayles) <gayles@arizona.edu>
Subject: Proposed MA degrees in PPE

[Quoted text hidden]

Jerry Gaus <jerrygaus@gmail.com> Mon, Mar 30, 2020 at 2:01 AM
To: "Schlager, Edella - (schlager)" <schlager@arizona.edu>

Dear Edella

Thanks so much for this. I realize you have so many more pressing things than this on your plate. I'm very grateful you found a way to think about the proposal.

Hope you and your loved ones are well.

Jerry

[Quoted text hidden]

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Head, Department of Political Economy and Moral Science

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<http://www.ppelarizona.com>



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Burgess, Shane C - (shaneburgess) <sburgess@cals.arizona.edu>
To: Jerry Gaus <jerrygaus@gmail.com>, "Siegel, Gayle R - (gayles)" <gayles@email.arizona.edu>

Tue, Mar 3, 2020 at 8:11 PM

From: Jerry Gaus <jerrygaus@gmail.com>
Sent: Monday, March 2, 2020 11:14 PM
To: Burgess, Shane C - (shaneburgess) <sburgess@cals.arizona.edu>; Siegel, Gayle R - (gayles) <gayles@email.arizona.edu>
Subject: Re: Draft of PPE MA proposal

Dear Dean Burgess

Thanks for your reply about the draft of our MA proposal. Please do share it with Mike Staten, or any one else whom you think is appropriate.

As part of the process a "letter of support" (which is really a note of non-opposition) from you would be extremely helpful. I hope that after review you feel you can do that.

Oh yes. For sure.

And thank again for the kind words.

Cheers

Jerry Gaus

On Mon, Mar 2, 2020 at 8:25 AM Siegel, Gayle R - (gayles) <gayles@email.arizona.edu> wrote: