



The University of New Mexico  
Department of Economics  
Academic Program Review

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## **Preface**

Compiling and writing this Self-Study Report was a collective effort of faculty and staff members. It began in fall 2020 with a meeting with the APR staff and identifying available data. Additional data were added from departmental and College of Arts and Sciences sources. Faculty were asked to identify sections of the assessment of which they would take ownership. The 2020-2021 graduate and undergraduate committees were assigned Criterion 3 and 4. The outgoing and incoming chairs and the departmental administrator developed the remaining criterion. Faculty were provided a draft of the assessment in August 2021 and asked for input and edits. The faculty then met and discussed the self-assessment report. From this, the report was edited and reviewed. That draft was submitted to the Office of Assessment. Comments and edit requests were made by that office, as well as the Assessment Office, Graduate Studies, and the College of Arts and Sciences. From this, the final report was developed and submitted on October 18, 2021.

## Review Committee

Robert Berrens, Professor and former Chair

Janie Chermak, Professor, Chair, and former Graduate Director

Richard Santos, Professor and former Undergraduate Director

Brady Horn, Associate Professor, Associate Chair, and former Associate Graduate Director

Leah Hardesty, Department Administrator

## **Criterion 1. Introductory Section & Background Information**

*The section should provide a brief introduction to the Self-Study Report, which includes the following elements:*

**1A: Summary** *An Executive Summary that provides a one to two-page summary/abstract of the information contained within the Self-Study Report.*

The Department of Economics at the University of New Mexico (UNM) is home to 17 tenure and tenured-track (T-TT) faculty members (16.5 full-time equivalent), three lecturers, two professional staff members, as well as one research professor and one professor of practice. Approximately 125 undergraduate majors and 60 graduate students are in the department. The department offers BA, MA and PhD degrees in economics. This is the only economics PhD offered in New Mexico. More recently, we've added an accelerated, online, undergraduate major and minor. We also provide offerings in the undergraduate core curriculum as well as in the equity and diversity curriculum. Between 2015 and 2019, we graduated 30 PhD students, which accounted for about 6% of the total for the College of Arts and Sciences (CAS). To put this in context, the department is the 6th largest contributor of PhD degrees granted in CAS.

The department is proud of its research, teaching, and service records. Faculty members serve in leadership roles in CAS; have been instrumental in the development of new programs on campus; serve in editorial roles for professional journals, and on national committees and panels. We are an applied economics program, with faculty expertise and graduate field areas in environmental and resource economics, public economics, and international development and sustainability. We have a strong focus on many of the most pressing problems of the 21<sup>st</sup> century - from climate change and public health, to energy transitions and impact on local communities, to the impact of risky health behavior, to the economics of medical cannabis, and the impact of external shocks on early childhood development. Our work has a strong public-policy focus and emphasizes intra- and interdisciplinary research.

Since the last APR (2011), the department has seen an overall increase in faculty and a substantial decline in undergraduate student credit hours (due to a variety of factors, but certainly impacted by a reduction in required general education hours at the undergraduate level, as well as a statewide common core numbering system that makes any common numbered course directly transferrable across public universities). The decline appears (from the last two fall semesters) to have leveled off. While in most circumstances, this would be considered a negative, the decline has resulted in student credit hour to faculty ratios that are more consistent with peer departments than what was the case in 2011.

The department has seen several changes in the staff configuration since the 2011 APR. We were initially able to enact a recommendation to increase our staff to three, providing highly efficient support to the department. Due to budget concerns, staff has again been cut to two.

Since 2016 the overall department budget increased 4.1%. The increase is solely due to faculty salaries. During the same time period, a reduction in staff numbers resulted in an overall decrease in staff salary expenditure. In addition, graduate assistantship (GA) support, and the operating budget were reduced over this time period. External grant funding levels coupled with

a decline of GA support from CAS and the loss of the Robert Wood Johnson Foundation Center<sup>1</sup> fellowships that supported graduate students, has placed the department in position of trying to balance graduate student cohorts large enough to populate three graduate fields, but small enough to provide financial support to PhD students through the completion of the program.

There are many bright spots in the department, including the net addition of six new tenured – tenure track (T-TT) faculty and three lecturers, largely due to departmental actions and a strong working relationship with CAS. This has, in part, allowed the department to reduce the class size for lower-level undergraduate courses from triple digits to double digits, which provides students with potentially better learning experiences. And it has allowed a larger number of courses to be taught by faculty rather than part-time instructors. The department has also added a fully online major and a minor in economics through the Accelerated Online Program (AOP), providing students with an alternative learning path and alternative revenue source for the department. The minor was added in 2018 and the major in 2020. Given the relative newness of the program, enrollments are modest. For example, in fall 2021, 46 students were enrolled in economics AOP courses. Of these, two are economics majors. The department faculty voted to add a shared credit program that will allow undergraduate economics majors to earn a master's with an additional year of course work. The department will formally request this program during the 2021-2022 academic year. These actions, as well as others detailed in the report are providing our students with increased opportunities.

Specific to research, total faculty publications are increasing, with about 25% of annual publications hitting in top field and interdisciplinary journals. This has kept the average per faculty publication rate steady (as the number of T/TT faculty has increased), meaning that we are meeting our historic expectations and, based on [RePEc](#) rankings, keeping the department in the top 25% of economics departments in the US. Many of these publications also include graduate student co-authors. These opportunities for graduate students are a result of research opportunities through some funded grants, as well as through a curriculum designed to foster research experience.

Funded grant activity has increased mainly through faculty collaborating with researchers outside of the department. Included in this is funding from NSF, DOE, and NIH. These collaborations reflect the interdisciplinary nature of our program. It also reflects the conscious effort in the department by encouraging faculty run grants through centers in order to reduce the administrative burden on a small, over-extended administrative staff. While this is strong positive and enhances the interdisciplinary stature of our program, it is one of many reasons that there is a decline in the research expenditures attributed directly to the department. The department is also proud that we received \$125,000 from the New Mexico Legislature to conduct state-relevant economic research during the current fiscal year. That has resulted in a range of projects that provide graduate students with opportunities to work on applied research, the state with expert analysis, and the faculty with the opportunity to comingle their research with service to the larger community.

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<sup>1</sup> The Robert Wood Johnson Foundation (RWJF) funded this center on campus from 2009 through 2016 when RWJF chose to move their funding in a different direction.

The economics building recently underwent a partial renovation, focused mainly on the HVAC system, which has provided an increased level of comfort. The building continues to be adequate in size and the department continues to work to improve the work environment.

As the department moves forward, there is the need to focus on a number of issues - and input from the External Review Committee is sought. These include (but are not limited to):

- A plan to stabilize the graduate program in terms of funding, as well as to increase the number of top-pick applicants who enroll in the program.
- A strategy to maintain the department's historic strength in environmental and resource economics field, while supporting and strengthening both the public economics and the international development and sustainability fields.
- An optimal staff size and configuration that provides efficient support to the program.
- Strategies to stabilize the department against declining budgets and budget fluctuations.
- A strategy to balance the AOP with the on-campus program in order to best serve a diverse student body.

**1B: History** *A brief description of the history of each degree/certificate program offered by the unit.*

The UNM [Department of Economics](#) was established in 1917, and has a long and proud history. Located on the UNM Main Campus in Albuquerque, New Mexico (NM), the department offers bachelors (BA), masters (MA) and doctoral (PhD) degrees in Economics. An undergraduate minor in economics is also available. The undergraduate economics minor and major are also both available through the UNM Accelerated Online Program (AOP), also originally referred to as the UNM Managed Online Program (MOP). In addition, departmental faculty regularly participate in the delivery of several interdisciplinary degree programs.

Initially, the department focused solely on undergraduate education, with the BA in economics (major) degree dating to the 1920s. A separate minor in economics has also been available for many decades (i.e. 50+ years). Economics was originally combined with Business Administration, but became a stand-alone department by the early 1940s, where it was part of CAS. The department continues to be located within the CAS. The Master of Arts (MA) in economics was added in 1947 and the Doctor of Philosophy (PhD) in economics was added in 1966. The historical focus of our graduate program has been on the PhD degree. We are the only program in the state of New Mexico to offer a PhD degree in economics, and one of only two to offer a Master's degree in economics.<sup>2</sup>

Currently, the MA degree offers students both thesis and non-thesis options. Historically the vast majority (90%+) of our MA degrees have been non-thesis options, earned by students on the way to their PhD degree. Recently, in Spring 2021 the department faculty voted to move forward with

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<sup>2</sup> New Mexico State University (NMSU), located in Las Cruces NM, offers two terminal masters' degrees in economics (MA) and Agricultural Economics (MSc). In 2009/2010, NMSU initiated a Doctorate in Development (DED) degree program, described as a professional degree primarily intended to provide advanced applied training for economic development professionals. The DED was not intended to compete against PhD degrees with a research and academic focus.

developing and implementing a “Plan III” MA degree that would facilitate a shared credit program so that our undergraduate economics majors could directly move into the terminal MA degree program. Also, for our economics majors (BA), the department already has separate 3+2 agreements in place with Business Administration and the Department of Geography and Environmental Studies.

The department began offering the PhD in economics in 1966, under the chairmanship of Dr. N. Wollman. The PhD program has always had an applied microeconomics focus. Notably, Dr. Wollman worked in the area of water resources, and a separate PhD field in environmental and natural resource economics was started in the late 1960s, making it one of, if not the oldest such PhD fields, in the US.<sup>3</sup> However, early PhD fields offered in the department also included labor, education and public finance, and micro theory, with an international development field added in the mid-1990s. At the last APR (2011), the department narrowed its focus to three complementary fields of specialization for our PhD program: (i) environmental and resource economics (ERE); (ii) public economics (PE) – with an emphasis in health; (iii) and international development and sustainability (IDS).

In terms of delivery mode for UNM economics classes and degrees, this was historically dominated by face-to-face (F2F) teaching at the Main Campus location in Albuquerque. By the 1980s, economics courses were regularly offered F2F on evenings and weekends as part of UNM’s Extended University (EU) program. There was, as well, at least one select correspondence-style course that offered in the 1980s/1990s, and the department did manage delivery of select F2F offerings of micro- and macro-principles (general education) courses at Kirtland Air Force Base (in Albuquerque) and the UNM-West campus in Rio Rancho, between roughly 1990 and 2010 as part of UNM EU. Also, as part of the EU umbrella, the department began offering select courses (micro- and macro-principles) in online (ONL) mode beginning in 2012 (with the hiring of C. Reiser as a continuing lecturer). The advent of ONL offerings roughly coincided with the gradual dropping of our participation in remote locations.

With growing student interest, surging UNM enrollments overall after the 2009/2010 recession, and university tuition sharing incentives, ONL undergraduate economics offerings gradually grew between 2012 and 2017 (when ONL courses constituted roughly 20% of our SCH, concentrated, but not solely, in principles courses). The initial tuition sharing incentive was discontinued by the university, but the Managed Online Program (MOP), recently renamed the Accelerated Online Program (AOP) replaced it, focusing on fully online degrees. In 2018, the department began formally offering an economics minor fully ONL as part of the AOP. In 2020 the department began offering a full ONL economics major as part of [UNM AOP](#). The department currently has a revenue-sharing agreement with UNM ONL, directly receiving 2/3rds of tuition revenues from students registered in the AOP degree program. Those students register in a separate AOP section of a course, which is then stacked with an online course section (open to all UNM students), and taught by the same faculty member. All AOP courses go through a pre-approval quality certification process. To date, all AOP economics courses are taught by regular UNM Economics continuing faculty (T/TT and continuing lecturers).

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<sup>3</sup> See: Smith, V.K, 2010. Reflections - Legacies, Incentives and Advice. *Review of Environmental Economics and Policy*, 4(2):309-324.



The department's growing presence and participation in AOP greatly facilitated our ability to move almost entirely (roughly 95%) to remote delivery in March 2020 during spring break, in response to the pandemic. We stayed almost entirely remote delivery, with several limited exceptions, through the 2020-2021 academic year (AY). Notably, this included both undergraduate and graduate classes. For the fall 2021 semester, the department is offering some fully F2F classes and a number of hybrid courses (some mix of F2F and remote delivery), in addition to the undergraduate AOP offerings.

At the undergraduate level, some economics faculty participate in the delivery of the undergraduate [BA/MD](#) program (teaching at least one cross-listed course per semester). Participation of the faculty in the BA/MD goes back approximately 15 years to the creation of the program (supported by the NM Legislature). Several faculty members have this participation written into their original hiring letter.

At the graduate level, faculty participate in the delivery of two interdisciplinary masters programs: the Master in [Water Resources Program](#) (WRP) and the Master of [Public Policy Program](#) (MPP). Both interdisciplinary professional programs are housed in the Economics Building. Both programs regularly offer cross-listed courses in economics as part of their core programs. Participation by economics faculty in the WRP delivery goes back to the creation of the program in 1989. Participation of economics faculty in the MPP delivery started with the creation of the program in 2017.

**1C: Organizational Structure** *A brief description of the organizational structure and governance of the unit, including a diagram of the organizational structure.*

The department is led by a departmental chair, who serves at the discretion of the Dean of CAS. The current interim dean of CAS is Arash Mafi (2021- ). Mark Peceny served as Dean of CAS from 2011-2021.

The chair is selected and appointed by the dean, who has typically sought input from the economics faculty. The chair position is historically a half-time appointment (moving to a half-time teaching load) and retains appointment on the faculty. With certification of the UNM faculty union in 2019 (and ratification of their first contract in June 2021), the chair is considered part of the UNM Administration and is not eligible to be a member of the faculty union, during their term as chair. The chair is responsible for managing the department, including serving as the financial officer, managing staff (through the Department Administrator), setting budgets, setting curriculum (with faculty input), making teaching assignments (with input from the undergraduate and graduate committees), overseeing workload requirements of all faculty members, and representing the department in the broader university. While answering to the dean, the chair leads the department under a Rules of Governance (ROG) document (see Appendix A). In 2021, the department also included an associate chair position, not only to assist with the increased workload, but also to provide a training period for future chairs. This is not codified in the current ROG but will be considered when the document is next opened for revision.

Under the ROG, faculty meetings are held monthly during the academic year (AY) and additionally as needed. Meetings are called and led by the chair, but can also be called at the request of any three voting faculty members. All T/TT faculty members have voting rights, and lecturers have voting rights on issues directly relating to delivery of the undergraduate curriculum. Tenure and promotion cases are voted on only by T faculty. Temporary faculty appointments in the department, including Professor of Practice, and Research Professor, hold no voting rights on any departmental issues (and do not attend faculty meetings).

Since 2001, and the adoption of the current ROG, as amended, the sequence of departmental chairs in economics has been: R. Santos (2000-2004), P. Ganderton (2004-2008), R. Berrens (2008-2012), J. Chermak (2012-2016), R. Berrens (2016-2021), and J. Chermak (2021-2023 expected, 2-year appointment).

In 2021-2022, all four of the chairs remain on the economics faculty and collectively have considerable leadership experience at UNM both inside and outside the department. Of note, Ganderton has served as an Associate Dean of CAS since 2008 and currently serves as Senior Associate Dean (where his salary line is completely in CAS).

Departmental leadership is also operationally provided by the graduate director (who leads the graduate committee) and the undergraduate director (who leads the undergraduate committee). The graduate and undergraduate directors are appointed by the chair and serve one-year, renewable appointments. For 2021-2022 the graduate director is K. Villa and the co-director is B. Jones; the undergraduate co-directors are D. Dixon and C. Reiser.

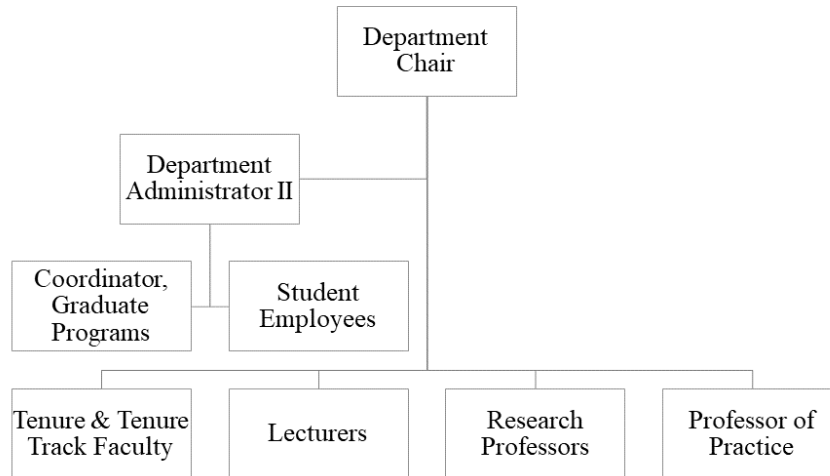
The department's ROG include the following standing committees: (i) graduate committee; (ii) undergraduate committee; (iii) personnel committee; (iv) seminar committee; (v) salary committee; and PhD exam committees. Annual committee composition requires a vote of faculty approval. The chair is also responsible for naming ad hoc committees (recently including the research and teaching excellence committees, "Team MOP" (now the AOP committee), and the website committee).

Answering to the chair, the staff is led by the Department Administrator (DA). L. Hardesty has served as the DA since October 17, 2013. The DA contributes to the strategic direction of the department. Answering to the DA, the other staff line is for a Coordinator, Graduate Programs (CGP) (held by B. Talley, since February 15, 2020). Staff also may include a variety of student workers, both graduate and undergraduate (including work-study positions), which are dependent upon the availability of funds. The organizational structure of the department changed in spring 2018. During a time of continued budget shortage at CAS, the department reduced one full time staff position returning the salary line to CAS.

Finally, working most directly with the undergraduate director(s), but answering to the [College Advising Office](#), there is an undergraduate economics advisor staff position (currently held by N. Faust-Shucker). This position is split between several CAS departments, with the salary line residing in the CAS budget.

The organizational chart for the Department of Economics is provided in figure 1.1

Figure 1.1: Department of Economics Organizational Chart



**1D: Accreditation** *Information regarding specialized/external program accreditation(s) associated with the unit, including a summary of findings from the last review, if applicable. If not applicable, indicate that the unit does not have any specialized/external program accreditation(s).*

The unit does not have any specialized/external program accreditations.

**1E: Previous APR** *A brief description of the previous Academic Program Review Process for the unit. The description should:*

- *note when the last review was conducted;*
- *provide a summary of the findings from the Review Team Report;*
- *indicate how the Unit Response Report and Initial Action Plan addressed the findings; and*
- *provide a summary of actions taken in response to the previous APR.*

The last Academic Program Review (APR) was conducted 10 years ago, in the 2011-2012 AY. From that review, overall, the review team was “unanimous in [their] praise for the Department of Economics and their many successes” (pg. 2). They noted the responsiveness of the department to the prior APR (1993) in revising the graduate and undergraduate curriculums, and greatly improving the overall culture and citizenship after prior periods of acrimony. The review team noted the responsiveness of the Department to the needs of the College, UNM and the state. They recognized the enhancement of undergraduate teaching and pedagogy, PhD graduate placement rate, and an overall research performance “*at or above the performance of peer departments*” (pg. 1).

The 2011 review team also expressed a primary concern: “*While the change in culture and the many accomplishments of the Department of Economics are truly commendable, the Department is in a very precarious position due to declines in faculty, staff and budget*” (pg. 2). A further concern was the heavy level of administrative appointments outside of the department (4

individuals out of 15 faculty) at the time, without any coverage or compensation back to the Department.

The 2011 review team concluded that: “*The Department has reached a tipping point and the current exceptional performance it has exhibited is not sustainable without an influx of resources from the College and University.*” (pg. 4). Aside from this general recommendation for additional resources, the 2011 review team also made a number of recommendations to the UNM administration:

- 1) replacement faculty lines for those apparently permanently lost to administration (two T/TT lines), and salary compensation for two part-time administrative positions
- 2) financial support for innovation in teaching
- 3) significant expansion of support of research and administration (including an additional staff line for supporting research).

With the recommended two replacement T/TT lines, the 2011 review team felt this would provide a “*solid foundation where investments in additional faculty members can stimulate teaching and research innovation that will provide substantial returns to the university*” (pg. 18). But, to help facilitate this, the 2011 review team also made an overall procedural recommendation to the department, and then a set of specific suggestions including:

- 4) holding a 2-day retreat, as a formal planning exercise that is professionally facilitated, to set future priorities in different mission areas, and consider their recommended input, including:
  - a) reducing undergraduate offering and delivery mechanisms and increase proportion of courses taught by (a larger set) of T/TT faculty
  - b) considering enrollments controls (class sizes) to better align teaching demands with teaching resources
  - c) reducing the number of graduate fields (from four to two, to include ERE and a complementary choice)
  - d) reconsidering the dormant MA program, and building a collaborative interdisciplinary alternative
  - e) adding flexibility to the Rules of Governance
  - f) developing a faculty mentoring program
  - g) continuing to increase external grant funding
  - h) increasing the future research portfolio through participation on large interdisciplinary grants
  - i) considering participation in offering an online degree(s), where there is potential revenue sharing by UNM
  - j) negotiating firm commitments from CAS and UNM when faculty take administrative positions outside the department
  - k) improving formal mentoring of junior faculty

The department responded to a majority of the recommendations. To briefly summarize, the actions based on this set of recommendations (and against the subsequent backdrop of a number

of department budget reductions including operating budget from \$48k to \$30k (between 2016 and 2021), a reduction in CAS graduate assistantship support, and intermittent losses of travel support, the department did the following:

- Held a two-day, professionally-facilitated planning retreat in 2011.
- Re-organized the staff: In 2013 the staff consisted of a Unit Administrator, a Coord, Graduate Programs, one Administrative Assistant II, and a part-time work study. In 2014, staff were re-organized to include a Department Administrator II (instead of a Unit Administrator), a Coordinator of Graduate Programs, and an Admin Assistant II, which was a staff configuration that provided excellent support to the department and to students. In 2018, due to budget considerations, the decision was made to eliminate the CGP. In 2019, the Admin Assistant II position was eliminated and the CGP reinstated. This was done in order to provide advising and support for graduate students, which is a priority in the department.
- Streamlined UG course offerings (2012/2013).
- Proposed and were approved for hiring five faculty lines in 2012/2013 (three T/TT and two lecturers), with an additional position approved in 2014.
- Reduced graduate fields from four to three in 2012/2013.<sup>4</sup>
- Added mentoring for junior faculty within the department in 2012 (further enhanced by more recent opportunities provided by UNM ADVANCE), and introduced a formal Mentoring and P&T guidelines document (started 2012/2013 available in Appendix A).
- Increased online course offerings (beginning in 2013), and added AOP online BA degree (eventually fully realized in 2020), with a revenue sharing agreement.
- Gradually realized suggested improvements in reducing student to faculty ratios, course to faculty ratios, and reducing the number of large class sizes (e.g., no longer offering principles courses larger than 70-80 students). Admittedly, this has been a product of large reduction in enrollments at UNM over last three to four years, after long period of increases.
- Participated in the introduction of the interdisciplinary MPP program (2017) and have recently voted to approve a shared-credit (Plan III, 30-credit, non-thesis) MA in economics.

The recommendations that have not been fully implemented include adding flexibility to the ROG. While the department has made a number of changes to the document, it is largely the same as it was when drafted in 2001. Faculty have not increased the level of external grant funding, and in fact this has declined since 2011. This and interdisciplinary activity are individual faculty focus and are not, at this point, highly incentivized by the department.

**1F: Vision & Mission** *Provide a brief overview of the vision and mission of the unit and how each degree/certificate offered addresses this vision and mission. Describe the relationship of the unit's vision and mission to UNM's vision and mission. In other words, to assist the university in better showcasing your unit, please explain the importance of its contribution to the*

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<sup>4</sup> With the intervention of Dean Peceny, the department did not reduce from the recommended four to two fields, instead the fields were reduced to three complementary fields of specialization for our PhD program: (ERE, PE and IDS).

*wellbeing of the university, including the impact of the unit's degree/certificate program(s) on relevant disciplines/fields, locally, regionally, nationally, and/or internationally?*

The University of New Mexico (UNM) was: “[Founded in 1889 as New Mexico's flagship institution.](#)” Today, home to more than 25,000 students, UNM is a majority-minority institution that is recognized as a Hispanic-Serving Institution (HSI), Carnegie Community-Engaged Institution, Military-Friendly School, and is designated as Carnegie Classification R1: Doctoral University (very high research activity).

Within this broader setting, our departmental community views economics learning as a pathway to careers and opportunities that can be both personally rewarding, while also contributing to improved societal well-being. This is reflected in our department **Vision Statement** (adopted August 23, 2011, as an outgrowth of our last APR and faculty retreat), which reads:

*“Our department (faculty, staff, and students) is an applied economics program. We value collegiality, intellectual diversity and excellence. We work to improve the well-being of communities. Collectively, we aspire to:*

- *Provide quality learning experiences that produce intellectually curious and highly capable graduates*
- *Conduct policy-relevant and high-quality research*
- *Serve the community, university, and discipline.”*

Additionally, in 2019, with input from various faculty, the department developed a statement of inclusion, which is included on our webpage:

*“The UNM Department of Economics is committed to providing an inclusive learning environment. Our research and teaching are strengthened by diverse perspectives, backgrounds, and points of view. We welcome colleagues and students of all races, ethnicities, abilities, religions, nationalities, gender identities, and orientations. Join us in learning economics at UNM”*

In working towards this vision, and spirit of inclusivity, the department relies on the dedicated efforts of our professional staff, as well as those of our faculty, including active participation in governance.

As stated in our 2011 APR self-study (pg. 15): As part of the CAS, the mission of the Department of Economics is aligned with that of the College,<sup>5</sup> and UNM more generally,<sup>6</sup> with our disciplinary focus on economics.

More specifically, the department has a **threefold mission** of: (1) teaching undergraduate and graduate students; (2) conducting research; and (3) serving the community, the university and the profession. In fulfilling this mission, we seek to advance and promote the understanding of economic principles and their relevance for current issues or problems. Our broad goal is to pursue and promote excellence in all three areas: teaching, research and service. This pursuit of excellence in teaching, research and service is fully aligned with the [UNM Faculty Handbook](#). An understanding of economics concepts and issues is critical to improving societal wellbeing in New Mexico and the broader region, and thus an important contribution to helping UNM realize its mission.

To help place the importance of this contribution in context, the department is home to a highly diverse faculty, with 20 continuing faculty (17 tenured-or-tenure track members, and three lecturers), plus two appointments of a Research Professor and a Professor of Practice. These include a number of award-winning researchers, mentors and teachers. Several current faculty members hold leadership and administrative positions across the UNM campus. We have approximately 125 undergraduate majors and 60 graduate students. We offer bachelor's (BA), master's (MA), and doctoral (PhD) degrees. Including those enrolled in our freshmen-level principles of economics classes, we teach more than 1,500 students every year, with a majority-minority student population. Our undergraduate curriculum includes a full range of regularly-offered, theoretical, topical, mathematical and econometric courses. A departmental honors program is also open to outstanding economics majors, typically beginning in their junior year. While some of our undergraduates continue onto graduate school, many others pursue careers in government or in private industry. In helping provide global perspectives, economics faculty members regularly lead study abroad opportunities for undergraduates. Recent trips include: Nicaragua, Cuba, Germany and Nepal.

Our graduate students include a mix of domestic students, including some from New Mexico, as well as international students from across the globe. Graduate student support and funding opportunities include graduate assistantships, participation in various fellowship programs, as

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<sup>5</sup> "The College of Arts and Sciences (CAS) is UNM's largest college with approximately 20 departments and 20 institutes, and totaling 60+ programs of study in the humanities, social/behavioral sciences, and STEM fields. The [CAS mission statement](#) is:

*"Our mission is to assist and guide our students in their pursuit of an Arts & Sciences degree. We collaborate with our diverse community of students in a dynamic learning environment. We help students develop tools and strategies to navigate their academic careers with confidence and efficiency, while also providing them with a way to translate those skills into lifelong practices."*

<sup>6</sup> The [UNM Mission statement](#) is:

*"The University will engage students, faculty, and staff in its comprehensive educational, research, and service programs.*

- *UNM will provide students the values, habits of mind, knowledge, and skills that they need to be enlightened citizens, to contribute to the state and national economies, and to lead satisfying lives.*
- *Faculty, staff, and students create, apply, and disseminate new knowledge and creative works; they provide services that enhance New Mexicans' quality of life and promote economic development; and they advance our understanding of the world, its peoples, and cultures.*
- *Building on its educational, research, and creative resources, the University provides services directly to the City and State, including health care, social services, policy studies, commercialization of inventions, and cultural events."*

well as research opportunities through faculty-funded research programs. Our graduate students follow a number of paths, pursuing careers in academics, research, government, as well as private industry.

The research focus of the department is driven by the three fields of specialization for our PhD program (ERE, PE and IDS). Of note, the department was one of the earliest to offer a field in ERE and is home to one of the most outstanding applied groups in the country. Faculty members have served as editors, associate editors, members of editorial boards, as well as committee members on National Academy of Science projects. Research spans a number of areas, including climate change, water, wildfire, and energy. The public economics group focuses on a variety of policy issues including public health, medical marijuana, risky behavior, as well as poverty and discrimination. The international development and sustainability group is truly global in nature with a focus ranging from Europe to Africa, to Central and South America to Asia.

Some departmental faculty members maintain active grant-funded research. In 2010, the [National Research Council](#) (NRC) ranked the department 49<sup>th</sup> among PhD-granting U.S. economics programs in overall research activity (which is the latest NRC ranking available). The 2019 NSF study, [Higher Education Research and Development: Fiscal Year 2019](#), reports \$394,000 in departmental R&D expenditures, which ranks the department 130<sup>th</sup> (top 26%) among U.S. economics programs for R&D expenditures, which is a drop from 62<sup>nd</sup> in 2010. While this is a large decline, and of concern to the department, there are a number of factors that impact this change. First, retirements and resignations of more senior faculty who contributed to externally funded research negatively impacted our external funding. Second, as a way to reduce the burden on an over-extended departmental staff, faculty have not been discouraged from taking grants through university centers. This also coincides with an increase in interdisciplinary research, which resulted in grant activity that is not administered through the economics department and, thus, does not show up in the NSF rankings. The economics faculty also regularly provide research consultations to a wide variety of public entities across the state, including various legislative committees as well as departments within state government, which is often not funded research.

The department supports economics faculty and student participation in a wide variety of interdisciplinary and trans-disciplinary endeavors. This is seen in the many connections both inside and outside the department. The department both physically houses, and the faculty actively participate in the WRP and MPP programs. This participation includes offering a variety of cross-listed courses. The department also houses the [Science Impact Laboratory for Policy and Economics](#) (SILPE) and the [Nepal Study Center](#) (NSC). Faculty and students have connections to a number of other interdisciplinary programs and centers at UNM. These include the [Center for Water and the Environment](#) (CWE), the [Latin America and Iberian Institute](#) (LAI), the [International Studies Institute](#) (ISI), the [Institute for Social Research](#) (ISR), the [Evaluation Lab](#), the [Center on Alcoholism, Substance Use, and Addiction](#) (CASAA), the [Resilience Institute](#) and, until its dissolution, the [Robert Wood Johnson Foundation Center for Health Policy](#). A number of faculty regularly work with units from the UNM [Health Sciences Center](#) (HSC), as well.



## Criterion 2. Teaching & Learning: Curriculum

*The unit should demonstrate the relevance and impact of the curriculum associated with each degree/certificate program. (Differentiate for each undergraduate and graduate degree and certificate program offered by the unit.)*

The department views economics learning as a pathway to careers and opportunities that can be personally rewarding, while contributing to improve societal wellbeing at all levels. In addition to our vision statement (page 11), our unofficial motto that we leave our graduates with at every departmental convocation is to "do well, but do good." To that end, our curricula at both the undergraduate and graduate level strive to provide students with underlying theory, application, assessment, and connection to our community, region and planet.

**2A: Curricula** *Provide a detailed description of the curricula for each degree/certificate program within the unit.*

- *Include a description of the general education component required, including any contributions from the unit to general education, and program-specific components for both the undergraduate and graduate programs.*
- *Discuss the unit's contributions to and/or collaboration with other internal units within UNM, such as common courses, courses that fulfill pre-requisites of other programs, courses that are electives in other programs, cross-listed courses, etc.*

### GRADUATE PROGRAM CURRICULA

The graduate Economics program at UNM was first established in 1947 with a Master's of Arts (MA) in Economics. The Doctor of Philosophy (PhD) was added in 1967. The graduate curriculum focuses on applied economics. Today we offer both an MA and a PhD. Our goals are for students to receive an excellent education in the classroom, to have ready access to faculty mentoring outside of the classroom, and to have opportunities to develop both research and teaching skills. To that end, our program and curriculum are designed to incorporate research requirements for students. At the MA level, students have a thesis research option, in order to provide research experience. The department also participates in a number of interdisciplinary graduate programs, including the [Water Resources Program](#), [Latin American Studies Program](#), and the [Master in Public Policy](#) (discussed after the PhD and MA curriculum). All new students are provided with a copy of the [graduate student handbook](#).

Doctor of Philosophy: Departmental goals for the graduate program are to provide students with a learning environment that allows them to a) develop a solid understanding of economic theory, methods, and specialized knowledge in field that will prepare them for professional careers, b) engage in and conduct original, high-quality, policy-relevant research that follows professional norms, and develop strong written and oral communication skills. Our curriculum is designed to achieve those goals.

A minimum of 48 credit hours of approved course work at the graduate level is required for the doctoral degree. The 48 credit hours are parsed across required core curriculum, a major area of study and a minor area of study. While the university allows up to 50% of course work earned

elsewhere, the department discourages a high level of transfer from a master's program to the doctoral program.

Our core curriculum requirements include three (3) hours of math tools; nine (9) hours of theory; and nine (9) hours of applied econometrics. The theory hours must be successfully completed in order to complete the criteria necessary to sit for the comprehensive exam, which is required by the university. The nine hours of required, applied econometrics must be successfully completed prior to sitting for a departmental required, written econometrics exam. This results in all PhD students having a tested field in econometrics. The sequencing of these required courses is provided in table 2.1 below. Because of the size of our program, the sequence is such that a student must begin the program during fall semester in order to stay on track. The required theory and econometrics courses account for 21 of the required 48 hours.<sup>7</sup>

Table 2.1: Required Courses and Sequencing<sup>8</sup>

Semester	Required Courses
Fall (Year 1)	ECON 501: Microeconomics I ECON 504: Mathematical Tools and Economic Models ECON 508 Statistics and Introduction to Econometrics
Spring (Year 1)	ECON 506 Macroeconomics ECON 513 Microeconomics II ECON 509 Econometrics I
Fall (Year 2)	ECON 510 Econometrics II

The department offers fields in Environmental and Natural Resource Economics (ERE); Public Economics (PE); and International Development and Sustainability (IDS). Each student chooses a major and minor area of study from these three fields. The major area requires a minimum of nine hours of course work and the minor area requires a minimum of six hours. The remaining required hours are elective and can be taken across the areas, or, in some cases, in other departments, depending on the student. While independent study courses are available, they are not encouraged and are considered appropriate when a course will not be offered during a student's tenure in the department, or the material is outside of that offered in the department and an independent study will enhance or augment a student's education and/or research.

Full-time students are expected to take a major and minor course in fall of year two and a major, minor, and elective course in spring of year two. Students are expected to take a major and economics elective course in fall of year three and an economics elective course in spring of year three. This schedule provides students with the opportunity to become proficient in applied theory and econometrics before transitioning to field courses, which generally require a larger research component. Because we are not able to offer all field courses every year, students are strongly encouraged to take major and minor field courses when they are offered. Table 2.2 provides the courses offered in each field. Because of the program size and variations in cohorts,

<sup>7</sup> The curriculum was adopted by the faculty in 2018. The major revision was a reduction in required macro theory courses from two to one. The revision was done to: a) reduce the required courses for first-year, first semester PhD students from four to three, b) change the first semester format to three, 16-week courses instead of the previous two sets of eight-week courses, and c) to better align our required theory with other applied programs. This also allows per PhD students to take an additional elective course.

<sup>8</sup> In addition to the courses required during the first three semesters, all graduate students are required to take a one-week, credit/no credit (CR/NC) "math bootcamp" (ECON 595) prior to the start of their first fall semester, which provides a math refresher.

the field courses are not offered on a set sequencing. Instead, one course from each field is offered each semester.<sup>9</sup>

Each field develops their own curriculum in terms of courses and content. In general, the curriculum for each field is built on the theoretical base and the empirical econometrics so that each field provides students with an applied economics education that allows them to consider a wide range of research.

Table 2.2: Field Courses

Field	Courses Offered
Environmental and Natural Resource Economics	ECON 540: Natural Resource Environmental, and Ecological Modeling I ECON 542: Topics in Environmental, Resource and Ecological Economics* ECON 543: Natural Resource Environmental, and Ecological Modeling II ECON 544: Environmental Economics
Public Economics	ECON 560: Public Economics** ECON 564: Topics in Health Economics* ECON 565: Topics in Public and Labor Economics* ECON 533: Seminar in Industrial Organization*
International Development and Sustainability	ECON 581: International Development and Finance ECON 582: Topics in International and Sustainable Development* ECON 583: Development Economics ECON 585: Sustainable Development

\*These topics courses may be repeated for a maximum of six (6) credit hours towards the degree.

\*\*Required for a major or minor field in Public Economics.

In addition to the above field courses, the curriculum includes specialty courses that are taught occasionally. These courses are generally reserved for visiting faculty, or for a faculty member who wishes to teach a specialty course for a variety of reasons, including, but not limited to, a timely topic, or a topic specific to a research program.

Accompanying the course curriculum are additional requirements. These include the university required comprehensive exam, which is a one-day, four question exam, covering theory. The exam is administered in August prior to the beginning of the second year of courses to those students who have successfully met the criteria for eligibility.<sup>10</sup> A student who does not successfully pass the comprehensive exam on their first try may, under certain circumstances, sit for the exam a second time in October of the same year. If a student does not successfully pass on the second attempt, the student may choose to complete a Master's, or exit the program without a degree.

Those who successfully complete the comprehensive exam, and the required nine hours of applied econometrics, are eligible to sit for the departmentally required econometric exam in January of their second year. Students who do not successfully pass the exam can take the exam again the following August. A third time can be petitioned, if necessary.

To begin the transition to research, after the successful completion of the comprehensive and econometric exams, all PhD students are required to complete a research requirement (RR),

<sup>9</sup> While this allows flexibility to the program, it may impede the timely completion of courses and required hours. To alleviate potential deficiencies in a student's education, students are encouraged to take additional courses (either for a grade or in CR/NC mode) after they have completed the minimum hours. This is usually a decision made by the major advisor and the student

<sup>10</sup> To be eligible to sit for the exam, students are required to have completed all relevant course work with a B or better, have a 3.00 or better overall GPA, and no incompletes.

which is a paper of original research. The topic must be pre-approved by the student's Committee on Studies (COS). The completed paper must be approved by the student's COS, presented in the department, and submitted to a journal for peer review. The RR is complete when the paper makes it into review in a journal. The paper is not required to be single authored and can emanate from a class paper, with significant value added, or from a research topic of choice. It is not a part of the student's dissertation.

When a student successfully completes the RR, they apply to advance to candidacy and officially begin taking dissertation hours towards the required 18 hours necessary, which is when the bulk of dissertation research should be completed.<sup>11</sup> The department encourages both intra- and interdisciplinary research and so a student's dissertation topic often has a focus that spans departmental fields, and very well may be truly interdisciplinary, bringing in, for example, applied hydrology, medical, or engineering theory.

The strengths of the curriculum and philosophy are that they provide students with tools, knowledge, and opportunity to focus on many of the most significant problems of the 21st Century. Potential shortcomings of the curriculum and program are a) timely delivery of all field courses in the curriculum, which can impede a student's ability to finish in a timely manner and b) a mismatch between a student's declared major and minor fields, their chosen dissertation topic, and the expertise of their dissertation committee. There have been cases in the PhD's awarded between 2011 and 2021, where there has been a potential mismatch between a student's declared major area of study and the major area of expertise of their primary advisor.<sup>12</sup> Of course, this is a balancing act where, and the department encourages inter-disciplinary work; however, these mismatches may negatively affect a student's employment opportunities and could have reputational impacts on the program.

Master of Arts: The Department of Economics offers the MA degree with specializations in environmental and natural resource economics (ERE), public economics (PE), international development and sustainability (IDS), or econometrics (METRICS). The only exception to these specialization areas is for the student who earns a master's degree en route to a PhD, or those students who pass the comprehensive exam at the master's level and exit the program with a master's in theory.

There are two plans under which a student can currently obtain a stand-alone master's degree. These are the:

- MA with thesis (Plan I)
- MA with exam (Plan II)

The Plan I MA requires a minimum of 24 hours of approved course work, plus six hours of thesis credit, and the successful completion and oral defense of the thesis. There are three required theory and applied econometrics courses. These are the shared courses with the PhD program and include the first microeconomics theory course (ECON 501), the required macroeconomics theory course (ECON 506), and the initial econometrics course in the sequence

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<sup>11</sup> The requirement of RR completion prior to advancement to candidacy was made in 2020. Prior to that the assumption was that students would not advance until that point, but it was not codified and several students moved to candidacy prior to the completion of the RR.

<sup>12</sup> Based on student areas of study by coursework and declared areas and faculty expertise.

(ECON 508). The remaining course work includes nine hours in the major area of study. This can include up to six hours of approved upper division undergraduate courses.

The Plan II MA requires 30 hours of approved course work plus successfully passing a written master's examination in the student's chosen specialty area. Master's exams are given in August and January, as needed. Both the Plan I and II MA require a minimum of 18 hours be completed in residence at UNM.

PhD students can earn a Plan II MA in route to the PhD with a specialty in theory by successfully passing the comprehensive exam at the PhD level and completing the required course work. A PhD student who does not pass the comprehensive exam at the PhD level, but does pass at the MA level, can exit the program with a Plan II MA, in theory, by successfully completing the required 30 hours of course work.

The department voted to move a Plan III MA program forward, which requires only course work. The program is currently moving through the university review and approval process. The Plan III is being developed as a path for our undergraduate to complete an MA while in residence at UNM by completing a 36 hours of required course work, part of which is "shared credit" between their undergraduate and graduate program. A similar stand-alone program is also under review, which provides a pathway for working professionals a pathway to complete an MA. The proposals for the Plan III are provided in Appendix B.

### *Collaborations with Other Programs*

The department contributes to the [Master in Water Resource Program](#) (WRP) and the [Master of Public Policy](#) (MPP).

In the WRP, the department cross-lists two, team-taught courses that are required courses for WRP students and are included as ERE field courses: WR 571 / ECON 546 (Water Resource I Contemporary Issues) and WR 572 / ECON 545 (Water Resource II Contemporary Issues). Economics faculty have team taught these courses for at least the last 25 years.<sup>13</sup> Faculty regularly serves as committee members and advisors for professional projects for the program. In addition, R. Berrens served as the WRP director from 2012-2016 and J. Chermak served as the chair of the 2021 hiring committee for the director search.

M. Binder (Associate Professor in Economics) was instrumental in the formation of the [Master of Public Policy](#) Program (MPP). The first cohort was in fall 2017 and is in its 5<sup>th</sup> year. The overall management of the MPP is under the direction of the MPP Executive Committee and in collaboration with the MPP Program Committee which consists of one representative from each of the participating units (the School of Public Administration and the departments of Economics, Political Science, and Sociology).

In the MPP, the department cross-lists two courses required by the MPP students: PUBP 501/ECON 595 (Policy Seminar) and PUBP 502/ECON 538 (Policy and Evaluation Lab). These courses are currently taught by M. Binder, and C. Diaz Fuentes. MPP students can take a

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<sup>13</sup> Those teaching the courses include D. Brookshire (retired), R. Berrens, J. Chermak, B. Jones, and J. Wang.

number of courses in the economics department. For example, the MPP program also offers a two-course sequence where students may choose to take [ECON 508: Statistics and Introduction to Econometrics I](#) and [ECON 509: Econometrics I](#).

## **UNDERGRADUATE PROGRAM**

### *Bachelors of Arts (BA)*

Economics classes have been taught at UNM for more than 100 years, with undergraduate degrees beginning in the 1920's. Currently, at the undergraduate level, interested students can complete an economics major leading to the BA degree, and we offer an economics minor. The department participates in a 3+2 BA-MBA degree program with the Anderson School of Management and shared credit programs with both the UNM School of Public Administration and the Department of Geography and Environmental Studies. Our undergraduate curriculum includes a full range of regularly offered, theoretical, topical, mathematical and econometrics courses. A departmental honors program is also open to outstanding economics majors, typically beginning in their junior year.

The goal of our undergraduate program is to provide students with well-rounded training that includes theoretical and practical skills for understanding and developing responses to social challenges related to economics. Our program encourages the higher order analytical skills that will serve our students in their future academic and professional careers.

The curriculum is divided into four course levels: principles courses at the 2000-level (previously 100-level); non-technical general interest courses with no pre-requisites at the 2000-level (previously 200-level); intermediate courses in microeconomics, macroeconomics, and econometrics at the 300-level; and a variety of upper-level electives at the 300- and 400-levels.

A major in economics requires 12-credit hours of a common core consisting of Macroeconomic Principles (ECON 2110, formerly ECON 105), Microeconomic Principles (ECON 2120, formerly ECON 106), Intermediate Microeconomics I (ECON 300), Intermediate Macroeconomics I (ECON 303), and Introductory Statistics and Econometrics (ECON 309). In addition, 18 credit hours of electives in economics are required, with a maximum of three credit hours from a 2000-level general interest course and a minimum of three credit hours from a 400-level course. In addition, and since the last APR, we revised the undergraduate curriculum to require more mathematics preparation. Students are now required to pass either Economics Tools (ECON 307), Applications of Calculus I (MATH 1430), or Calculus I (MATH 1512) in order to take Intermediate Macroeconomics (ECON 303) and Intermediate Microeconomics (ECON 300). Students are also required to pass Introduction to Statistics (MATH 1350) to enroll in Introductory Statistics and Econometrics. A minor in economics requires a total of 18 credit hours consisting of nine hours in required courses (ECON 2110, 2120 and either ECON 300 or ECON 303) plus nine hours from elective courses with a maximum of three hours at the 200-level.

The breadth of electives allows students to choose a path that best fits their career plans or interests. At the 300-level, electives encompass environment and natural resources, labor, health,

public finance, urban, consumer, development and history of economic thought. Advanced courses at the 400-level include international economics, labor, public finance, and environmental economics. Most of the 300-level electives require Intermediate Microeconomics or Intermediate Macroeconomics; and all of the 400-level courses require Intermediate Microeconomics or Intermediate Macroeconomics with all but one requiring Introductory Econometrics. In all we offer 29 electives: four at the 2000-level, fifteen at the 300-level, and twelve at the 400-level. We also offer independent studies, reading for honors, and senior honors thesis courses. Electives are listed in Appendix B.

Recommendations for course paths are provided to students on our course website, in syllabi, and at our annual “Economics Meet and Greet” (a gathering of incoming majors, advisors, and faculty). We also encourage students to discuss the selection of electives with the economics undergraduate director and the Economics advisor, since not all courses are offered every semester. Examples of suggested elective paths given to students are as follows:

- Business Economics: 2130, 315, 320, 330, 332, 333, 350, 408, 424, 429
- Social Policy: 2220, 320, 331, 332, 335, 342, 369, 408, 427, 445
- Developing Economies: 321, 341, 423, 424, 429
- Natural Resource and Environmental Economics: 2220, 342, 343, 442, 466
- Data and Policy Analysis: 309, 369, 407, 408, 409, 445
- Pre-Law: 320, 330, 332, 333, 335, 342, 350, and 445
- Pre-Graduate: 315, 320, 342, 343, 350, 400, 403, 407, 409, 424, 429, 442, 466
- Labor Economics: 320, 335, 410, 427

In addition, the university requires all undergraduate students to complete three hours of an approved course in U.S. and Global Diversity Inclusion. Students can satisfy this global and diversity requirement by taking ECON 2220 (Race and Gender) or ECON 331 (Poverty and Discrimination), as well as an approved diversity inclusion course in another department.

Since the 2011 APR, the department has added two new courses to the curriculum – Economics Tools (ECON 307) and Problem-Based Learning Using Data Analytics (ECON 369). Economics Tools was created in response to our 2012 APR Action Plan to provide a course that provides the mathematics, data analysis, and writing skills particular to economics. Students have the option of taking ECON 307 or a first semester calculus course. The first half of the course is dedicated to graphing, algebra, and calculus applications in economics. In the second half of the course, students work on a guided data analysis project and present their findings in a paper using economic writing conventions. Several sections of the course are taught in UNM’s Learning Studio Classrooms, which are technology-enhanced and constructed to encourage collaborative work between classmates. ECON 369 provides students with the opportunity to work in an interdisciplinary and collaborative fashion to analyze real-world problems faced by underserved communities, apply analytical tools to these problems, and identify implementable solutions. The course has also provided students an opportunity for hands-on community service, research, and policy implementation through an affiliated study abroad trip to Nepal.

In February 2017, the UNM Budget Leadership Team proposed offering fully online degree programs. The faculty of the Department of Economics began discussions of participating in the

Accelerated Online Program (AOP). The faculty of the Department of Economics elected to explore the possibility of offering an AOP minor in Economics, given that an Economics minor would fit well with the other programs offering AOP majors.

Proposed curricula were explored through summer and fall 2017 and in January 2018 faculty began implementing online courses to offer an AOP minor in Economics starting Fall 2018. Each course being offered as an AOP must meet UNM Online quality standards and undergo a formal evaluation process, making for a long lead-time between proposal and deployment. Each course must be offered at regular intervals and fit into a schedule to reach degree completion.

AOP course offerings began in Fall 2018 with ECON 2110 Introductory Macroeconomics, ECON 2120 Introductory Microeconomics, ECON 300 Intermediate Microeconomics, ECON 303 Intermediate Macroeconomics, ECON 307 Economics Tools, and ECON 309 Introductory Statistics and Econometrics. Four additional AOP courses were added during calendar year 2019. With the addition of ECON 408 Economic Forecasting Methods: A Time Series Approach in Fall 2020, the AOP program now offers a fully online Economics major. Starting Fall 2021, ECON 424 International Trade was added to the choices for majors in the AOP.

### *General Education Courses*

All undergraduate students are required to complete three hours of social and behavioral sciences to meet the general education curriculum of 31 hours to graduate from the University of New Mexico. Students can enroll in approved courses in economics, sociology, psychology, anthropology, and other social behavioral courses. The Department offers two courses that contribute to this mission - Macroeconomics Principles (ECON 2110) and Microeconomics Principles (ECON 2120). Our general education courses have continually met the New Mexico's Higher Education Department's (NMHED) Area IV: Social and Behavioral Sciences Core Competencies and, most recently, the new NMHED's Essential Skills Criteria. (Outcomes Assessment is discussed in more detail in Criterion 3 below.)

In addition to fulfilling the general education requirement, students in the following undergraduate degree programs are required to complete Macroeconomic Principles (ECON 2110) and/or Microeconomic Principles (ECON 2120):

- Pre-Pharmacy (either)
- Business majors (both)
- Civil Engineering (either)
- Electrical/Computer Engineering (either)
- Nuclear Engineering (ECON 2110)
- Social Studies Elementary Level (either)
- Social Studies Grades 7-12 (multiple economics classes)

We have a dedicated faculty who take great pride in their instruction. Notably, in recent years, several faculty members and graduate teaching students have taken strides to enrich the general education experience by focusing on best practices in equity and inclusivity, teaching about social and global challenges, and providing opportunities to develop research skills. Faculty have been awarded the Academic Affairs General Education Teaching Fellowship (Assistant Professor J. Wang); the Provost's Challenge for Excellence and Equity, Student Experience Project Fellowships (Associate Professor M. Binder, Assistant Professor J. Wang, and Senior



Lecturer C. Reiser); as well as the Provost’s Challenge for Excellence and Equity, Expanding Course-Based Undergraduate Research Experience (Assistant Professor J. Wang, and Senior Lecturer C. Reiser). These fellowships have provided faculty with the opportunity to: incorporate their research, and regional issues into their undergraduate courses; improve classroom performance and degree completion among structurally disadvantaged students, including first-generation students and students of color in our general education courses, and; engage students in entry-level economics research using best practices in inclusivity and equity.

The department also piloted the David Hamilton Teaching Fellowship, to support a graduate teaching assistant to teach principles of economics with a strong social justice component. This brings together the contributions of Professor David Hamilton into the undergraduate study of economics. The foci of the courses included globalization and technological advantage and poverty, discrimination and social justice.

Since the 2011 APR, our general education courses have undergone two major changes: a common course numbering system and an essential skills assessment.

### *Common Course Number System*

Starting in 2019, the department was required to adopt new course names, numbers, descriptions, and course learning objectives for both our general education courses. This was in response to the New Mexico Higher Education Department’s (NMHED) new [Common Course Numbering System](#). By making the courses “equivalent”, students could fulfill their degree requirements at any NM higher education institution. As of July 2021, students from 27 other institutions across NM can transfer into UNM (or our major) without having to take the Macroeconomics Principles or Microeconomics Principles courses offered through our department. Our department raised concerns to the NMHED’s Economic Steering about the potentially negative effects on our enrollments due to the new system. A discussion of the possible effects on enrollment and majors is discussed in Criterion 4C.

### *Move to Essential Skills*

In the fall of 2020, the NMHED’s general education model was updated to emphasize Essential Skills in lieu of the traditional Core Competencies that covered content. The essential skills chosen by the NMHED that pertain to the economics general education courses include the following:

1. Communication
2. Critical Thinking
3. Personal and Social Responsibility

To be qualified as a general education course, the department successfully completed a recertification process. The process required us to write narratives and provide example assessments on how each course weaves the essential skills above to the course learning objectives. The forms are provided in Appendix C.

The undergraduate economics curriculum is broad-based, which provides an appeal to a large cross-section of students. The innovations developed by faculty, as well as the David Hamilton Teaching Fellowship, which was piloted for two years, provides an exciting direction for the

department in order to provide students with a focused relevant curriculum. However, the challenges faced by the department include adequate resources to continue successful piloted programs (i.e., the David Hamilton Fellowship) as well as a curriculum that is, perhaps too large, for the size of the faculty and the size of the program.

**2B: Mode of Delivery** *Discuss the unit's mode(s) of delivery for teaching courses.*

Historically, all graduate-level courses have been delivered face to face. The only time this has not been the case has been during the pandemic when the courses moved online. Fall 2021 is a transition back towards face-to-face as the courses are all either 100% face-to-face, or a hybrid combination of face-to-face and synchronous remote.

The Department of Economics teaches undergraduate course in various formats: face to face classes, online classes, flipped classroom, a computer lab setting for econometrics, and student opportunities for independent studies. Students in our undergraduate classes are primarily taught by full time faculty. Graduate student teaching assistants with faculty serving as their teaching mentors are also given the opportunity to teach an undergraduate course, subject to availability of funding. By expanding delivery into online courses a few years ago, the department was in a prime spot to continue to offer quality certified online courses during the pandemic.

## Criterion 3. Teaching & Learning: Assessment

*The unit should demonstrate that it assesses student learning and uses assessment to make program improvements. In this section, the unit should reference and provide evidence of the program's assessment plan(s) and annual program assessment records/reports. (Differentiate for each undergraduate and graduate degree/certificate program and concentration offered by the unit.)*

The department has individual assessment plans for the PhD, the MA, and the undergraduate programs. The plans were developed to conform to the university's assessment guidelines and requirements. For cohesion, the discussion of criterion 3A through 3C are provided for each program as separate sections. Assessment plans, reports, and outcomes are provided in Appendix C.

**3A: Assessment Plans** *Provide current Assessment Plan for each degree and certificate program in the unit.*

### *PhD Program Assessment*

The Department of Economics PhD Assessment Plan was developed in 2016 and centers on three broad learning goals. These state PhD students will:

- A. Will gain an advanced understanding of economic theory, methods, and specialized knowledge in field that will prepare them for professional careers,
- B. engage in and conduct original, high-quality, policy-relevant research that follows professional norms, and
- C. develop strong written and oral communication skills.

To that end, five student learning outcomes (SLO's) were developed. Two assess goal A, one assesses goal B, and two assess goal C. Each SLO focuses on either knowledge (K), skills (S), or responsibility (S). The five SLO's are provided below.<sup>14</sup> Note that while the SLO's are presented as "by the end of the program," a portion of the SLO's are measured during the program. This is because mastery of the subject requires significant progress at major milestones during the program.

- A1. By the end of the program, students demonstrate mastery of economic models and their application. (K, S),
- A2. By the end of the program, students can use appropriate econometrics to explore economic issues and test hypotheses. (K, S)
- B1. By the end of the program, students can conduct original, high-quality economic analysis. (K, S)
- C.1 By the end of the program, students can effectively present their work to peers, PhD economists and to interdisciplinary and general audiences, including undergraduate students. (K, S, R)

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<sup>14</sup> A, B, or C refers to the broad learning goal.

A series of direct or indirect measures or metrics, as well as criteria for success, were developed to assess each SLO. The department has a three-year rotating assessment across the criteria to assess the SLO's. Table 3.1 summarizes the assessment.<sup>15</sup> For each metric, the assessment utilizes the last three years of data so that all information is incorporated into the assessment. Note that we utilize the research requirement, and the doctoral defense for both mastery of economic models and application, as well as for economic analysis. The evaluation sheets (included in Appendix C) completed by faculty have several components of evaluation. The appropriate components are used for the specific measure.

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<sup>15</sup> Note where the criteria states an average of "3" or better, this refers to an evaluation by faculty of the measure where a scale of one (1) to five (5) is utilized with 1 means the assessment for the measure is "inferior", 3 means "good", and 5 means "excellent". The exception to this is C.1.4, which refers to student evaluations for teaching effectiveness, which is scaled from 0 to 5.

Table 3.1 PhD Outcomes Assessment Overview

Year Assessed	Measure	Direct or Indirect	Criteria
Year 1	<b>A1: By the end of the program, students demonstrate mastery of economic models and their application (K, S)</b>		
	1. Comprehensive Theory Exam (1st year students)	Direct	≥ 50% of students pass at the PhD level
	2. Research Requirement Paper and Presentation (3rd year students)	Direct	The average of all research requirements assessed by faculty is a 3 or better.
	3. Doctoral Dissertation and Defense (final year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
	<b>A2: By the end of the program, students can use appropriate econometrics to explore economic issues and test hypotheses (K, S)</b>		
	1. Field exam in econometrics (Assesses 2nd year students)	Direct	≥ 80% pass at the PhD level
	2. Research Requirement Paper and Presentation (assesses 3rd year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
	3. Doctoral Dissertation and Defense (Assesses final year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
Year 2	<b>B1: By the end of the program, students can conduct original, high-quality economic analysis. (K, S)</b>		
	1. Research Requirement Paper and Presentation (assesses 3rd year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
	2. Doctoral Dissertation and Defense (Assesses final year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
	3. Student Publications (current and recent students)	Indirect	Five or more total a year across students
Year 3	<b>C1: By the end of the program, students can effectively present their work to peers and PhD economists. (K, S)</b>		
	1. Research Requirement Paper and Presentation (assesses 3rd year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
	2. Doctoral Dissertation and Defense (Assesses final year students)	Direct	The average of all dissertation defenses assessed by faculty is a 3 or better.
	3. Job Placements (graduates)	Indirect	85% of PhD students placed within two years
	4. Teaching Evaluation Scores (for students teaching as independent instructors)	Indirect	Teaching effectiveness, average score of 3 (good) or better on a 0-5 scale

The goal of our assessment program is to evaluate our students at various stages in their education process. To that end, we specifically evaluate performance of first, second, third and final year students with direct and indirect metrics. When possible, we tie our assessment to milestone reviews of students, including the comprehensive exam, the econometrics exam, the research requirement, and the doctoral defense. In some cases, during the research requirement or the doctoral defense, different aspects of the requirement are evaluated for different measures.

The assessment is conducted each fall by the graduate director and the coordinator for the graduate program and provided to the College. The graduate director holds a workshop for the faculty each spring to discuss the assessment and to consider revisions indicated by the assessment. The last major revisions to the assessment program were made in 2016. Further changes to the assessment program have been delayed in anticipation of the APR (which was originally scheduled for 2020) and input from the review committee. The assessment plan will be updated after the APR, as we are past the recommended three to five-year update.

### *Master's Program Assessment*

The current Department of Economics MA outcomes assessment plan was developed in 2016 and centers on two broad learning goals. These include that MA students will develop:

- A. a solid understanding of economic theory and methods that will prepare them for professional careers.
- B. strong written and oral communication skills.

To that end three SLO's were developed. Two assess goal A and one assesses goal B. All MA SLO's focus on skills. The three SLO's are provided below. As with the PhD program, while the SLO's specify by the end of the program, the assessment includes intermediate information.

- A.1. By the end of the program, students can explain and manipulate economic models.
- A.2. By the end of the program, students can use appropriate econometrics to explore economic issues and test hypotheses.
- B1. By the end of the program, students can effectively present economic ideas to peers and professional economists.

A series of direct or indirect measures or metrics, as well as criteria for success, were developed to assess each SLO. The department has a three-year rotating assessment across the criteria to assess the SLO's. Table 3.2 summarizes the assessment. For each metric, the assessment utilizes the last three years of data so that all information is incorporated into the assessment.

Table 3.2: Master's Outcomes Assessment Overview

Year Assessed	Measure	Direct or Indirect	Criteria
Year 1	<b>A1: By the end of the program, students can explain and manipulate economic models.</b>		
	1. MA Field Exam (Plan II)	Direct	> 50% of students pass at the PhD level
	2. MA Thesis (Plan I)	Direct	The average of all research requirements assessed by faculty is a 3 or better.
	3. Focus group of MA graduate residing in New Mexico	Indirect	The majority of graduates believe the program prepared them well.
	<b>A.2: By the end of the program, students can use appropriate econometrics to explore economic issues and test hypotheses.</b>		
	1. MA Econometric Field Exam (Plan IL)	Direct	≥ 50% of students pass at the PhD level
	2. MA Thesis (Plan I1)	Direct	The average of all research requirements assessed by faculty is a 3 or better.
Year 2	3. Focus group of MA graduate residing in New Mexico	Indirect	The majority of graduates believe the program prepared them well.
	<b>B.1: By the end of the program, students can effectively present economic ideas to peers and professional economists</b>		
	1. MA Thesis (Plan I)	Direct	≥ 50% of students pass at the PhD level
	2. Job Placement	Indirect	≥ 80% of graduates over the last three years will be in a PhD program or employed.
	3. Focus group of MA graduate residing in New Mexico	Indirect	The majority of graduates believe the program prepared them well.

As with the PhD assessment, we aim to evaluate our students at various stages in their educational process. To that end, we strive to evaluate performance during the program and after. The assessment workshop is held with the PhD assessment workshop.

### *Undergraduate Assessment Plan*

The Department of Economics participates in a BA and General Education assessment annually following a holistic, participative process. Our assessment process is, by its very nature, cyclical,

provides a roadmap for continuous improvement. It contains our (1) learning goals and student learning outcomes, (2) how and when we will assess each outcome, (3) what our benchmarks are for each outcome, and (4) how we communicate findings and share action items to improve the program and/or the assessment process itself.

To help facilitate the assessment process, a faculty member acts as the Undergraduate Assessment Coordinator (UAC) and works closely with the Undergraduate Committee (often serving as a member of the committee). In general, yearly responsibilities of the UAC include:

- Communicating with faculty throughout the academic year to prompt assessment participation, administer assessment measures, distribute rubrics, and provide updates on any changes to assessment.
- Collecting and analyzing assessment data.
- Hosting an annual *Undergraduate Assessment Workshop* (workshop materials are included in Appendix C) with faculty which includes sharing of findings and friendly discussions about ways to improve the program.
- Collaborating with the Undergraduate Committee to develop action plans based on findings.
- Writing a *Report to the Faculty* that summarizes assessment results, main discussion points at the workshops, and any actionable items the Undergraduate Committee and Undergraduate Assessment Coordinator generated.
- Writing and submitting the *BA in Economics Assessment Report* to the College of Arts and Sciences each fall.
- Participating in assessment workshops hosted by the College of Arts and Sciences.
- Maintain or revise as necessary the assessment plans (Gen Ed and BA). This includes updating student learning goals and outcomes, assessment measures (e.g., surveys, embedded questions, rubrics), and a schedule of activities, in response to any changes requested through the department or Undergraduate Committee.

The annual Undergraduate Workshop, which focuses on both the BA and Gen Ed Assessments, is a bright spot of our department and proves to be rewarding. Primarily occurring in the fall of each year, all faculty members and graduate student instructors are invited to attend. The three-hour workshop allows us to come together as a faculty to celebrate our strengths but also reflect on how we can improve. Most of the workshop is spent in collegial dialogue with one another, with faculty members leaving the workshop re-energized and re-committed to the teaching mission of the department.

### *BA Assessment Plan*

We have six broad learning goals and seven student learning outcomes (SLOs) for our BA program, which have largely remained unchanged since the plan's adoption. The broad learning goals and associated SLOs include:

- A: Theory (Mastery of basic economic theory.)
  - A.1. Students will be able to explain, graph and analyze key economics models.
- B: Institutional Context (Familiarity with institutions that shape economic behavior.)

B.1. Students will be able to analyze the economics and institutional arrangements of specific regions, countries, organizations, localities, industries or firms.

C: Data Analysis (Use of data sources, methods, tools and analysis used in economics)

C.1. Students will be able to generate and interpret summary statistics and regression models.

C.2. Students will be able to identify data sources, describe appropriate empirical tools, and perform research on data they retrieve from original surveys, or official and industry sources.

D: Critical Thinking (Apply, evaluate and critique economic models.)

D.1. Students will be able to evaluate economic issues and public policy by using economic models or data analysis while identifying underlying assumptions of the model(s) and limitations.

E: Communication (Communicate economic ideas.)

E.1. Students will be able to effectively communicate economic ideas.

F: Economic Citizenship (Consideration of alternative viewpoints on policy issues.)

F.1. Students will be able to formulate informed opinions on policy issues and recognize the validity of opposing viewpoints.

We assess SLOs over a two-year cycle. Each one is assessed indirectly through a graduating senior survey and directly through the scoring of multiple course assignments. The senior survey is delivered to pending graduates via Esurvey (aka Opinio) every semester, asks students to rate their own understanding of each SLO using a Likert Scale, and solicits students to respond to a series of open-ended questions about the quality of the program. For direct measures, faculty members are asked to choose an assessment in their own course that best aligns with a given SLO (or SLOs) and score their students' submissions against a rubric. Scores are sent to the Undergraduate Assessment Coordinator (UAC) for analysis and reporting purposes.

### *General Education Assessment Plan*

Our general education courses, Macroeconomic Principles (ECON 2110) and Microeconomics Principles (ECON 2120), fall within the New Mexico Higher Education Department (NMHED) Content Area IV: Social and Behavioral Sciences. The assessment of our courses occurs in two ways – based on content and skills.

Beginning in 2008, the university required general education courses to create a general education assessment plan for each course. We developed core concepts and student learning objectives relevant to each course's content, aligned them with the New Mexico Higher Education Department's (NMEHD) Core Competencies and UNM's Learning Goals, and developed a means of assessment. In effect, these concepts and student learning objectives represent the main concepts learned in traditional economics principles courses (e.g., opportunity



cost, supply and demand, marginal analysis, fiscal policy, etc.). This assessment based on *content*.

In the fall of 2020, NMHED's general education model was updated from content-based learning objectives to essential skills. Now, our general education courses are assessed on communication, critical thinking, and personal and social responsibility skills by a set of external reviewers. Each year, CAS selects which essential skill will be focused on and chooses ten sections from Area IV to gather data on. If one of our general education sections is chosen, the instructor must choose an assignment (aka "artifact") from their course that best represents the essential skill being assessed. They then upload four randomly selected, de-identified student submissions of the assignment to the assessment website. Departments are not provided the outcomes of the essential skills assessment.

While the content-based assessment is no longer required by the university, our department decided to continue doing it. We have always found the results important and enlightening to improve our delivery of our general education courses. As such, the student learning outcomes we continue to assess annually are those we initially created in 2008.

**3B: Assessment Reports** *Provide current Assessment Report for each degree and certificate program in the unit. Expand on any initiatives/changes that have resulted from these reports.*

### **Graduate Program Assessment Reports**

#### *PhD Assessment Summary*

Assessment of each measure is done on a three-year rolling cycle with A1 and A2 assessed one year, followed by B1, and then C1 in the third year. The internal data are compiled by the staff from exams, research requirements, dissertation defenses, and teaching evaluations. Publications are tracked through CV's and resumes, while job placements are tracked through communications with graduates, their dissertation advisors and, in some cases, through internet searches. The data analysis and the assessment report is completed by the graduate director and provided to the College in early December of each year. The faculty holds a workshop in the spring semester to discuss outcomes, concerns, and potential changes to the program.

Table 3.3 below provides a synopsis of the results. The program has met and exceeded all requirements over the three-year review period. Concerns over the last three years have focused on the time to degree for some students. There have been no major changes to the program, based on our outcomes assessment.

Table 3.3: PhD Outcomes Assessment Results: 2017 through 2020

	MEASURE	METRIC	OUTCOME	SAMPLE	COMMENTS
2017-2018	<b>C1: By the end of the program, students can effectively present their work to peers and PhD economists.</b>				
	1. Research Requirement Paper and Presentation (assesses 3rd year students)	Avg score $\geq$ 3.0 (0-5 score)	Avg score: 4.00 - met requirement	n=3	
	2. Doctoral Dissertation and Defense (assesses final year students)	Avg score $\geq$ 3.0 (0-5 score)	Avg score: 4.46 - met requirement	n=7	
	3. Job Placement	85% within two years	100% - met requirement	n=15	Academic: 3 Government: 3 Research: 4 Industry: 5
	4. Teaching Evaluation Scores (for students teaching as independent instructors)	Avg score $\geq$ 3.0 (0-5 score)	Avg score: 4.2 - met requirement	n=24	
2018-2019	<b>A1: By the end of the program, students demonstrate mastery of economic models and their application.</b>				
	1. Performance on comprehensive exam (theory)	$\geq$ 50% Pass Rate	75% Pass Rate - met requirement	n=12	
	2. Research Requirement (theory)	Avg score $\geq$ 3.0 (0-5 score)	Average score: 3.7 - met requirement	n=9	
	3. Doctoral Defense (theory)	Avg score $\geq$ 3.0 (0-5 score)	Average score: 4.6 - met requirement	n=9	
	<b>A2: By the end of the program, students can use appropriate econometrics to explore economic issues and test hypotheses.</b>				
	Performance on econometrics exam	$\geq$ 80% Pass Rate	Pass Rate: 100% - met requirement	n=7	
	Research Requirement (quantitative aspects)	Avg score $\geq$ 3.0 (0-5 score)	Average score: 4.2 - met requirement	n=9	
Doctoral Defense (quantitative aspects)	Avg score $\geq$ 3.0 (0-5 score)	Average score: 4.6 - met requirement	n=9		
2019-2020	<b>B1: By the end of the program, students can conduct original, high-quality economic analysis.</b>				
	1. Research Requirement Paper and Presentation (assesses 3rd year students)	Avg score $\geq$ 3.0 (0-5 score)	Average score: 4.1 - met requirement	n=10	
	2. Doctoral Dissertation and Defense (Assesses final year students)	Avg score $\geq$ 3.0 (0-5 score)	Average score: 4.4 - met requirement		
	3. Student Publications (current plus within three years of graduation)	Five or more total publications a year across all students	Average 20 publications per year	n=21	A total of 60 publications are attributed to these 21 students.

### Master's Assessment Summary

Assessment of each of the measures is done on a three-year rolling cycle with A1, A2, and B1, being evaluated in years 1,2, and 3, respectively. The data are collected and analyzed consistent with the PhD data and the MA workshop is held in conjunction with the PhD outcomes assessment workshop.

Over the last several years, we've had at most two master's students, making the assessment results difficult to complete, when considering individual student privacy. And in some cases, for example the 2018-2019 cycle, there were no students in the sample. To summarize those aspects of the outcomes assessment that could be reported on:

- In the case of measures associated with performance on master's theses, the scores exceeded the 3.0 benchmark.

- There were no field exams over the period of interest
- Job placements, or matriculation into a PhD program exceeded the 75% benchmark
- Due to the small number of graduate living in the state, focus groups have not been viable.

The program has met and exceeded all requirements over the three-year period, for those measure we could evaluate. The complete reports are provided in Appendix C.

*Changes and Revisions to the Graduate Program Assessment Plans*

Both the PhD and the MA program assessment plans have served us well over the last several years. However, the PhD assessment plan may need refinement to better assess the program and to align metrics with SLO's. The assessment for the master's program needs revisions due to several factors. For example, small numbers make the current plan difficult to administer. With the potential addition of a Plan III Master's, the assessment methods may also need to be revised. Input from the external committee would be appreciated.

**Undergraduate Program Assessment Reports**

*BA Assessment Summary*

The departmental assessment reports (BA and General Education), submitted to the College. The most recent undergraduate assessment received the highest score from CAS Assessment Review Committee.

As is noted in the Assessment Plan, we use direct measures and an indirect measure. For direct measures, instructors choose assignments in their course that best represent the SLOs being analyzed for the year; and score them against rubrics provided by the Undergraduate Assessment Coordinator ( UAC). The UAC tallies the number of submissions that have scored “acceptable or better,” with a goal of 75% or more students meeting the mark. Table 3.4 below summarizes assessment outcomes based on direct measures for the last three assessment cycles. The results for the 2020-2021 academic year (B1, D1, and E1) are still being analyzed.

Table 3.4: Percentage of Students Scoring Acceptable or Better Using Direct Measures

SLO	2019-2021	2017-2019	2014-2017
A1	82.7	81.3	--
B1	--	83.8	--
C1	92.7	87.0	92.6
C2	93.9	85.2	100.0
D1	--	89.8	81.1
E1	82.4	82.1	--
F1	--	85.4	--

In addition, we supplement these direct measures with an online, anonymous senior survey. The survey asks students to rate their proficiency in each SLO and/or whether they believe they were given the opportunity to develop particular skills relevant to a SLO. Our goal is at least 75% of students agree or strongly agree with the statements provided. Table 3.5 below summarizes the percentage of students selecting “agree” or “strongly agree” for each statement. Data for the 2020-2021 academic year are still being analyzed.

Table 3.5: Percentage of Students Selecting “Agree or Strongly Agree” on Senior Survey

	<b>Statement</b>	<b>2020-2019</b>	<b>2019-2018</b>	<b>2017-2018</b>	<b>2016-2017</b>	<b>2015-2016</b>	<b>2014-2015</b>
Response Rate		42.1	29.0	23.3	22.4	42.9	34.1
A1	I can graph and interpret graphs of key economics models (e.g., supply and demand, utility-maximization, profit-maximization, AD-AS, IS-LM, externalities, etc.)	100	100	82.4	100	N/A	N/A
	I can explain and analyze key economics models (e.g., supply and demand, utility-maximization, profit-maximization, AD-AS, IS-LM, externalities, etc.)	91.7	100	70.6	100	N/A	N/A
B1	As part of my economics coursework, I was required to produce written reports considering the economics and institutional arrangements of specific regions, countries, localities, organizations, industries, or firms	79.2	93.8	58.8	67.7	92.6	93.3
	As part of my economics coursework, I was required to produce oral reports considering the economics and institutional arrangements of specific regions, countries, localities, organizations, industries, or firms	83.3	93.4	88.2	33.3	74.1	66.7
C1	I can generate interpret summary statistics and regression models.	91.7	93.8	88.2	86.7	100	100
	I can manage data in Spreadsheets and Statistical software packages.	91.7	93.4	76.5	86.7	96.3	86.7
C2	As part of my coursework, I performed primary research on data retrieved from original surveys, or official industry sources.	95.8	100	76.5	100	92.6	73.3
D1	I can evaluate public policy and other economic issues using economic models.	79.2	93.4	82.4	86.7	88.9	93.3
	I can analyze data and identify underlying assumptions of the models and limitations of the data	83.3	100	64.5	86.7	100	93.3
E1	I can effectively communicate economic ideas in writing.	91.7	100	88.2	100	92.6	100
	I can effectively communicate economic ideas orally.	87.5	93.3	64.7	86.7	92.6	93.3
	I was given sufficient opportunity to develop my communication skills through written assignments	87.5	93.8	76.5	53.3	81.5	86.7

	I was given sufficient opportunity to develop my communication skills through discussion and participation.	83.3	100	64.7	60	N/A	N/A
	I was given sufficient opportunity to develop my communication skills through oral presentations.	83.3	100	76.5	33.3	63.0	60
F1	I was encouraged to formulate informed opinions on Policy issues	75	93.8	82.4	86.7	85.2	66.7
	I was encouraged to recognize the validity of viewpoint other than my own	83.3	87.5	70.6	80	85.2	60
Overall, how would you rank the Economics Program? Ranked 1-5, where 5 is Excellent. (Percentage indicate respondents choosing a 4 or 5)		86.4	87.5	88.3	60.0	81.5	80

The 2019-2020 response rate is higher than in previous years, especially when compared to 2015-2016, however there is still marked improvement. The majority of respondents take the survey at the end of the spring semester, the disruption by COVID may have affected student responses. In general, we are pleased with our outcomes. We have exceeded our target in the direct measures for every SLO in the past six years. In terms of the indirect measures, we have exceeded our targets for all SLOs in the past two years; and for most SLOs the four years prior to that. The instances in which we failed to meet expectations in the past had more to do with the provision of skill building in the classroom. For example, in earlier years, survey respondents felt they were not encouraged to engage in economic citizenship (F1; 2014-2015); and were not given sufficient opportunity to develop communication skills (E1; 2014-2017) or prepare reports pertaining to institutional context (B1; 2016-2017). However, these issues were brought up in the annual undergraduate workshop, addressed by faculty in the classroom, and we've met our targets since. In addition, the majority of survey respondents ranked our department as a four or five (1-5, with 5 being excellent) each year.

The survey also solicits answers to open-ended questions regarding the quality of the program, which has provided valuable insight. The UAC categorizes the qualitative data provided by respondents to identify the most common responses to four main questions.

Between 2014 and 2020, in response to “why did you choose an economics major?” students have steadily answered with the discipline’s development of quantitative, analytical, and critical thinking skills, it’s policy and real-world applicability, and simply having a general interest in the subject. Students have consistently answered “what were some good and/or most helpful things about the program?” by stating supportive faculty, data analysis projects, and the variety of electives offered. Interestingly, a number of students that mentioned their “high school economics course” as a rationale for choosing the major has fallen consistently over the years. This could be an opportunity for the Undergraduate Committee to strategize outreach to local high schools in the hopes of attracting more interest in the major.

We also ask for student feedback on how we can improve the program. As such, we ask students “what were the most frustrating/bad things about the program?” and “how can we improve the program?” Between 2014-2016, students were most frustrated with the scheduling of classes, lack of math and/or data analysis requirements, insufficient career or graduate school preparation, and the scheduling of classes. In turn, students most often suggested we offer more classes (or better schedules), that we communicate better about mathematics requirements for graduate programs, that we offer concentrations or a BS in Economics, and that we require more math or stats courses. In response, our department has made changes to sequencing, course requirements, course delivery formats, instructional design, communication methods, and the like. While the number (and percentage) of respondents that mention these comments has generally fallen over the years due to our responses, it is still the case that they remain the top comments. As such, we acknowledge the need for continuous improvement and take these suggestions as opportunities to grow.

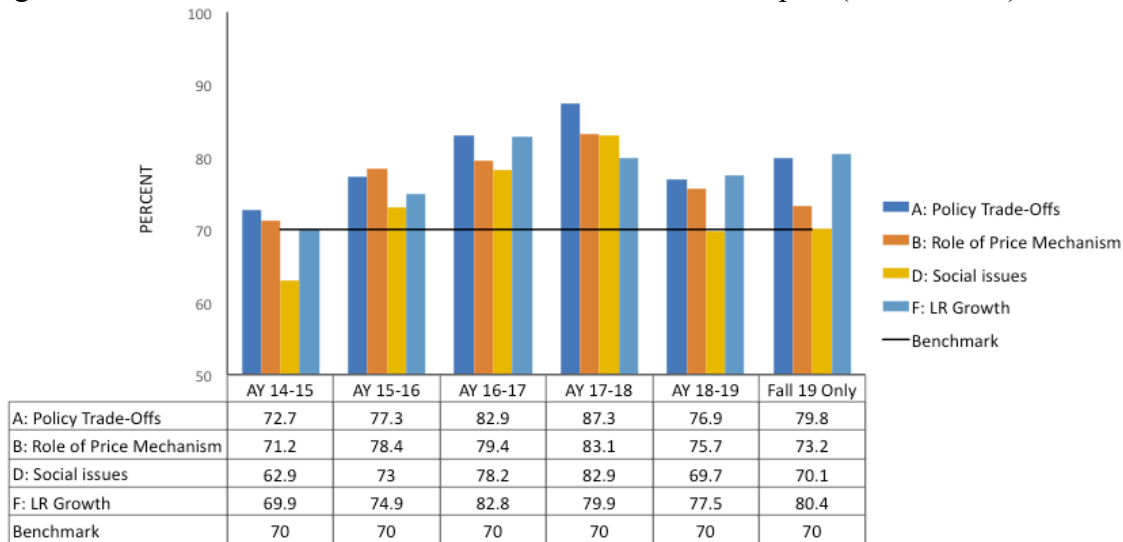
### *General Education Assessment Summary*

In addition to meeting the essential skills assessment obligations for the university, our department continues to assess our general education student learning content objectives internally at the annual Undergraduate Assessment Workshop.

As is noted in the plan, the means of assessment is the same for each course. We administer a uniform quiz to all main campus students at the end of each fall and spring semester through UNM Esurvey (aka Opinio). Each quiz consists of 15 multiple-choice questions and a multi-part essay question, which covers all SLOs. Faculty are asked to make the quiz at least 3% of a student’s final grade. The quizzes are graded by the Undergraduate Assessment Coordinator, and results sent back to the instructor. Each SLO has a number of multiple-choice questions that vary with difficulty aligned to it. Our benchmark is that 70% of students score correctly answer at least half of the SLO’s questions.

Figure 3.1 illustrates the percentage of Macroeconomic Principles (ECON 2110) students meeting this benchmark since the 2014-2015 academic year with Spring 2020 omitted. (Analysis indicated that results were significantly lower in the spring of 2020. Student average scores were 15.1 percentage points lower than the previous four spring semesters, presumably due to the unexpected move to remote learning due to COVID-19.)

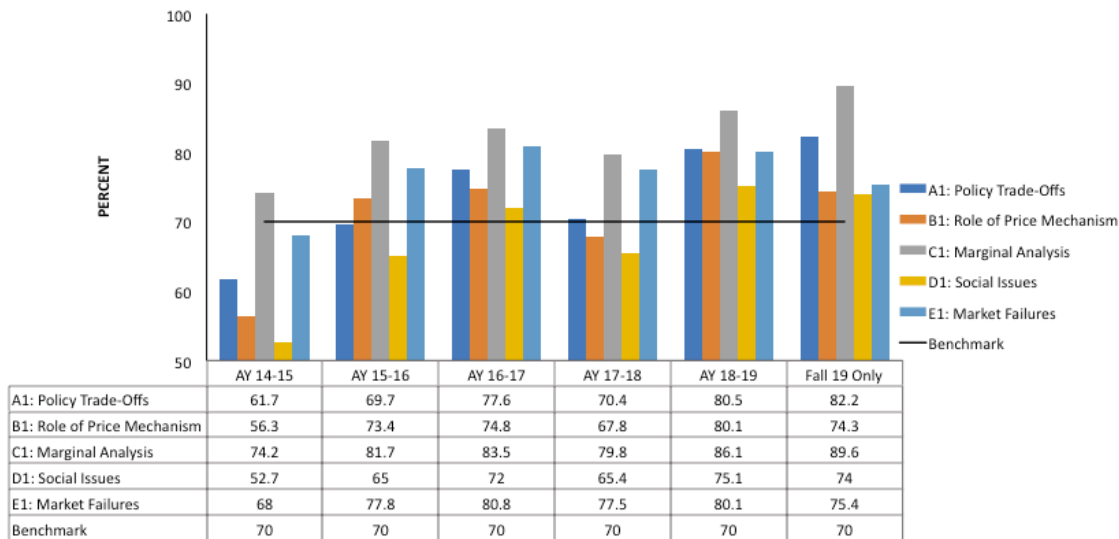
Figure 3.1: Assessment Outcomes for Macroeconomic Principles (ECON 2110)



For the multiple-choice questions, the percent of students that met or exceeded expectations for each SLO has been above the 70% criterion for success since 2015-2016. From 2014-2015, we’ve seen increases in success rates for all SLOs. However, we also recognize that we hit a downward tick in the 2018-2019 academic year. Of concern is SLO D, which focuses on the application of macroeconomics principles to social issues. When we look at the specific questions aligned with the SLO that were answered incorrectly, it seems our students struggle with understanding real wages and real interest rates. While these topics are generally taught earlier in the semester, it is nonetheless important information that students should take from the class. This was addressed in the last workshop and faculty discussed ways concept could be incorporated into discussions throughout the semester to provide review. Hopefully students perform better in the next assessment.

Figure 3.2 illustrates the percentage of Microeconomic Principles (ECON 2120) students meeting this benchmark since the 2014-2015 academic year with Spring 2020 omitted.

Figure 3.2: Assessment Outcomes for Microeconomic Principles (ECON 2120)



We are pleased with the growth in success rates for each SLO since the 2014-2015 academic year. There is an average increase of 16.5 percentage points of students scoring acceptable or better across all SLOs. However, there is still room for improvement in SLO D, which focuses on applications of microeconomics principles to social issues. Within this SLO, questions on taxes, pollution, and minimum wages are presented to students. These tend to be the more challenging topics in microeconomics; and in some instances, time constraints imply that instructors may not spend sufficient time on them. Using class time more effectively to spend on these topics, such as through activities or problem sets, may be necessary to make improvements. Implementation is ongoing.

In addition to the multiple-choice questions, we also ask a multi-part essay question on each quiz. A random selection of 200 student submissions for each course is scored by the Undergraduate Assessment Coordinator using a rubric. Our benchmark is that at least 70% of students score acceptable or better. In general, students tend to struggle with the essay portion of the quiz regardless of the course. In Macroeconomic Principles, students perform well on multiple-choice questions regarding expansionary policy, but the vast majority cannot adequately explain in writing the mechanisms through which policies affect the aggregate economy. For Microeconomics Principles, students recognize that higher prices lead to lower consumption, but often confuse the terms “quantity demanded” and “demand” when writing their explanations. Part of the reason we might see lower pass rates is simply because students know the essay portion does not contribute to their grade; or they believe it contributes too little.

#### *Changes and Initiatives in Response to Undergraduate Assessment*

In general, we have made the following major changes or initiatives as a direct result of our BA and General Education assessment reports since the last APR.



## *Changes to the BA Assessment Plan*

The current assessment plan has been updated multiple times from the initial 2008 plan in response to logistical challenges and changing guidelines by the College of Arts and Sciences Assessment Review Committee (CARC). In its pilot years of 2008-2010, students worked with the undergraduate director to develop a portfolio of their work, which was assessed by the undergraduate committee. However, because of the heavy administrative burden on both the Undergraduate Assessment Coordinator and students, faculty decided that collecting papers from 400-level courses was a better means of direct assessment. Between the 2010-2016 academic years, a team of three to four faculty volunteers would score a sample of 400-level papers written by majors using a rubric that delineated each SLO (in cases where the sample size was too low for the year, we supplemented our data with term papers from upper-level 300 electives). In 2016, CARC changed its assessment guidelines so that departments had to (i) include at least two direct measures for each SLO (in addition to an indirect measure), (ii) have four different types of direct measures in total, (iii) make sure all SLOs were assessed over a three-year cycle (instead of six), and (iv) increase the sample size of measures collected. While we felt that the use of 400-level papers was most appropriate for program assessment, there were two challenges that made it difficult to meet the new guidelines. First, our 400-level course offerings are limited and occur on an irregularly rotating schedule that depends on instructor presence and student demand. This means it is not necessarily the case that the course content aligns with the SLOs being assessed that year. Second, some 400-level courses did not require students to write a research paper, which meant we had limited to no data.

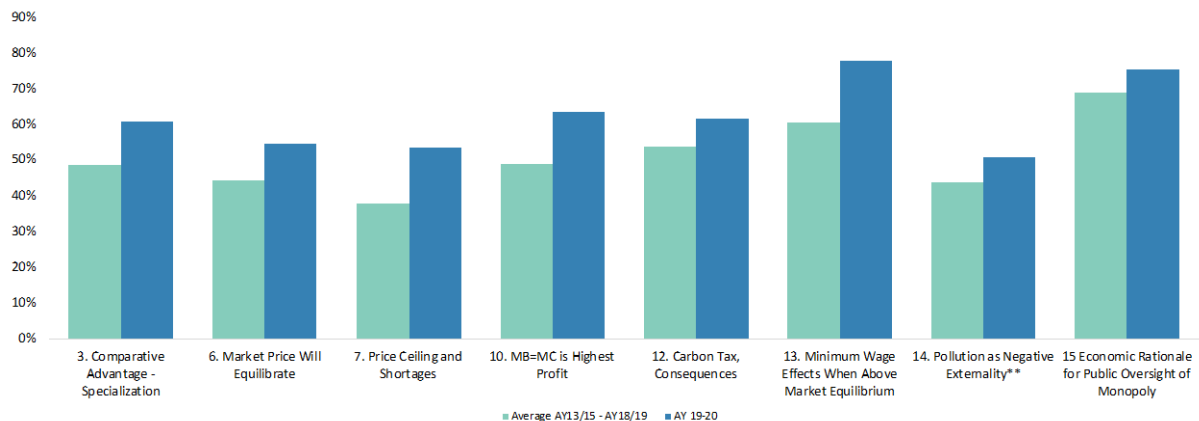
In response to this, we developed our currently used assessment plan – one that is tractable enough to meet these challenges. Because students can take various course paths to their degree, we found it most productive to examine assessment related to the core courses required for the major (Intermediate Microeconomics, Intermediate Macroeconomics, and Introductory Statistics and Econometrics) versus upper-level elective courses (i.e., electives that require students to have completed at least one of the core courses). As such, we use assignments from the core courses to assess SLOs relating to theory (A), data analysis (C1), and communication (E). SLOs relating to institutional context (B), advanced data analysis (C2), critical thinking (D), and economic citizenship (F) are best embodied in the upper-level electives. To ensure the highest sample size, the UAC encourages all instructors to participate in assessment each semester by choosing an assignment they believe best represents the SLO(s), scores student submissions against a rubric, and reports anonymized results back to the UAC.

The new plan has its benefits and challenges. In addition to meeting the requirements, it (i) initiates faculty to emphasize theory, data analysis, and communication earlier on in the student's path, (ii) encourages all faculty members to participate in the assessment process, and (iii) is tractable enough to embrace various electives. However, the logistics of the current plan are challenging. It requires multiple correspondence between the UAC and faculty members throughout each semester (especially during the hectic times of beginning, mid, and end of semester), relies on faculty members' voluntary participation, and does not differentiate between majors, non-majors, or minors (although the vast majority of students in these courses are declared majors). We ask the external review committee for suggestions to improve our logistics.

## Changes to the General Education Assessment Plan

The department has updated the General Education assessment plan over the years. Changes by the NMHED required us to adopt new SLOs and focus on essential skills. In 2013, the department began administering the assessment quiz via Opinio. This helped reduce administrative burden and computer percentages easier. Starting in 2016, the faculty voted to require all ECON 2110 and ECON 2120 instructors make the assessment quiz worth at least 3% of a student's final score. Finally, in 2018, some of the questions in the ECON 2120 assessment quiz were revised. Prior to the 2019-2020, we hypothesized that the "type" of question being asked may be driving results down for the ECON 2120 assessment results. Further examination into each question showed that students tended to perform well on "traditional" multiple choice questions but failed on multiple answer questions. And in fact, re-scoring the quiz by allowing partial credit on multiple answer questions increased pass rates significantly. Revising the quiz and revising some of the language seemed to help improve success rates. Figure 3.3 illustrates this. The left-hand column represents the average percent of students correctly answering problematic questions between 2013 and 2019. The right-hand column is the percent correctly answering after the revisions took place. Percentages increased for every question, with increases ranging from 6.6 percentage points to 17.1 percentage points.

Figure 3.3: Percentage Correct After Revision



## Changes to Pedagogy

We take great pride in our instruction of economics. After the annual undergraduate workshop, instructors reflect on what effective practices they should continue implementing and what practices might need changing. In general, the annual Undergraduate Assessment Workshop gives faculty members the opportunity to see what effective practices they should continue and what they can improve on. Over the years, instructors have responded by experimenting with moving from traditional 'chalk and talk' to flipped classroom methods, web-enhanced course materials, using audience response systems, deploying more active learning activities, and simply dedicating better time to challenging topics.

Several faculty members have been awarded fellowships to implement best practices in inclusivity in the classroom. Others have been awarded fellowships to teach courses focusing on social justice themes or introducing research experiences into the undergraduate program, including the general education courses. More detailed information is provided in Section 2A: Curricula.

In the early stages of assessment, students did not fare well on the writing SLO; and in particular failed to properly cite sources. In response, the Undergraduate Assessment Coordinator shared information about potentially valuable writing resources to faculty including AACU writing rubrics and UNM's Online Writing Lab (a student-centered academic support specific to writing). The UAC also created the Economics Citations Guide, which is on our website and provided to students. In addition, part of the ECON 307: Economics Tools course is dedicated to teaching students writing conventions particular to economics. Since then, we have seen marked improvement in our students' writing.

Additionally, our graduate student instructors represent an invaluable part of our teaching mission. Prior to the start of every semester, graduate student instructors are paired with faculty mentors. The mentor and mentee work together to ensure high quality course instruction, including review of syllabi, course observation, and periodic meetings throughout the semester.

### *Program Changes*

Our department has made several changes to the program over the years. We have changed pre-requisites and created new courses. In 2012, we began requiring calculus or its equivalent for Intermediate Microeconomics (ECON 300) and Intermediate Macroeconomics (ECON 303). This mathematics level was chosen to be comparable to the math prerequisites at peer economics departments. In 2013, the department created a new course called "Economics Tools" (ECON 300), which could be used in lieu of the calculus prerequisite. The rationale was to provide students the math, data analysis, and writing conventions most often used in economics. The first half of the course is dedicated to graphing, linear algebra, and calculus. The second half has students conduct a regression analysis and write their research into a paper. The course is offered through two delivery modes – one as a flipped classroom using UNM' Studio Classroom and the other is through a fully certified online course. Expanding on data analysis and research projects, the course "Problem Based Learning Using Data Analytics" (ECON 369) was created in 2016. For several years, many graduating seniors expressed a desire for the department to offer more courses and/or projects related to data analysis and mathematics. They felt that this would better prepare them for the interdisciplinary work inherent in the economics job market and/or for graduate studies. Through the leadership of Professor Alok Bohara, the course exposes students to real-world problems faced by the under-served community, teaches them to apply data analytical tools, and offer implementable solutions. Please see Section 2A: Curricula in this report for more details on both the ECON 307 and ECON 369 courses.

Graduating senior survey respondents indicated that the program could be improved by offering more elective courses at flexible times. In addition, growing demand from both traditional and non-traditional students and constraints in resources meant we had to provide new avenues for

course delivery. In 2012, we developed Macroeconomic Principles and Microeconomics Principles fully online. Now, we now offer a full suite of courses to satisfy an online minor through UNM's Accelerated Online Program (AOP). Each online course is taught by instructors who have taken relevant training in online pedagogy and is paired with a professional online course designer. In addition, each online course is required to pass a rigorous review process using a 53-criterion rubric with external reviewers.<sup>16</sup>

### *Communication and Outreach*

Since 2014, we have created better avenues to communicate about various paths and post-grad career opportunities. On the departmental level, we use a list-serv and the departmental website to house videos, handouts, and a brochure. In addition, instructors are encouraged to communicate with their students through class and/or on their syllabi. More discussion on outreach is in Section 4A.

**3C: Primary Constituents** *Describe the unit's primary constituents and stakeholders. Include and explanation of how the student learning outcomes for each degree/certificate are communicated to students, constituents, and other stakeholders.*

The constituent groups for the graduate program outcomes assessment are the graduate PhD and MA students, the faculty, the college and the university. Assessment reports are available to students on the departmental webpages and they are provided to the college. They are provided to the faculty and discussed during an annual workshop.<sup>17</sup>

The economics department's primary constituents are undergraduate students and graduate students at the University of New Mexico interested in taking an economic course(s) or seeking a degree in economics. The student learning outcomes and goals (SLO's) for the undergraduate economics core courses that meet the state's general education requirements (social and behavioral sciences) for an undergraduate degree are communicated to students via our department's web page. In addition, the SLO's for the BA degree in economics and the undergraduate annual assessment reports are available to the students on the department web page. Economic faculty include the SLO's in their economic course syllabus provided to students. An assessment of the learning outcomes for undergraduate and graduate courses are communicated in annual reports to our primary stakeholders: College of Arts and Sciences and the of the Provost - Academic Affairs.

Further, as a large, public university in the state of New Mexico, we view our constituent groups to include the citizens of New Mexico. To that end, the contributions our students make to the state after their graduation, both as private citizens and through their employment are an integral

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<sup>16</sup> The following statement is from UNM's Center for Digital Learning's Online Course Standards Rubric: "The standards behind the rubric were originally guided by ideas from the Provost's UNM Faculty Online Standards Task Force (2005 – 2009). The Online Course Advisory Council later built on this foundation to develop a rubric that was approved by UNM Faculty Senate Teaching Enhancement Committee in 2013, and recently revised for clarity in 2019. The Rubric provides a framework for online course design based on the University of New Mexico's online course standards, evidence-based practices for teaching and learning, federal compliance for online courses, and national standards for quality online course delivery (including [Practices for Verification of Student Identity](#) and [Quality Matters Standards](#))."

<sup>17</sup> There was no workshop held during spring 2021 to discuss the 2019-2020 results, due to the pandemic.

part of our assessment, as potential employers measure current students by past students' performance in the workplace.

## **Criterion 4. Students (Undergraduate & Graduate)**

*The unit should have appropriate structures in place to recruit, and retain undergraduate and graduate students. (If applicable, differentiate for each degree and certificate program offered by the unit). Include specific measures and activities aimed at increasing equity and inclusion.*

**4A: Recruitment** *Discuss the unit's proactive recruitment activities for both undergraduate and graduate programs, including specific efforts focused on recruiting students of color, underserved students, and students from groups that have been traditionally under-represented in your academic field.*

### *Graduate Recruitment*

Graduate recruitment is an unfunded activity in the department and one that falls mainly to the graduate committee, the graduate director(s), and the academic coordinator. The basic process, which does not change year-to-year, is to provide information to inquiries made by prospective applicants and make follow-up contacts. The academic coordinator is tasked with providing information to prospective candidate concerning the mechanics of the application process, while the graduate director tends to provide most of the information concerning questions about the program itself.

Most applicants find the department through the recommendation of a mentor, through an online search, or through word of mouth from other students. To that end, we have made revisions to the graduate web pages in 2020 in order to provide better information to the prospective applicant.

Because this is a small program we work to recruit an incoming cohort of six to ten students who not only have a high probability of success in the PhD program, but as importantly will be a good fit for the program and have diverse backgrounds. The graduate director is normally tasked with much of the recruitment effort and follows up with prospective applicants in order to provide information, as well as to increase an applicant's interest in the program. If the applicant appears a good fit for a field, the graduate director may ask a specific faculty member to contact the applicant. In the last year, we've also added either phone conversations or ZOOM meetings on request with potential applicants. The intent is to provide applicants with individual attention. Pre-COVID, we normally apply for travel funding from Graduate Studies to bring two or three top prospects to campus for a visit. Of the last three students who visited campus under this program, one joined our program. Of the other two, one chose to attend the University of Oregon and one the University of Hawaii. During COVID, we substituted a ZOOM open house for interested applicants, instead of on-campus visits.

We have increased our recruitment efforts to be more proactive and to take advantage of resources provided by the [Office of Graduate Studies](#). First, the Office of Graduate Studies now provides information for McNair scholars, as well as a National Name Exchange list of potential applicants. The graduate committee now contacts students from both lists who fit with our program strengths. During the 2019-2020 application cycle, we also increased our efforts to bring exceptional Fulbright scholars into the program by offer funding in the out years of their PhD program after their Fulbright scholarship ended. We are having success with this more

specialized and individualized approach as the 2021 cohort includes more applicants who are our first choices. We welcomed our first McNair recruit in fall 2021 as well as a Fulbright scholar.

### *Graduate Retention*

Retention starts with recruiting and selection of our incoming cohort. We use a holistic review process when we admit students to the program and offer funding. We consider not only GRE scores, transcripts, and reference letters, but an applicant's letter of intent and their potential overall fit with the program.<sup>18</sup> We also are placing a stronger focus on shaping the incoming cohort to the fields with external funding, which allows us a better opportunity to provide students with RA opportunities and to, hopefully, complete their degree in a timely fashion.

Our philosophy is that if we accept a student to our PhD program, our goal is for that student to successfully complete the PhD. When a graduate student enters our program, we strive to provide them with an educational opportunity where faculty are assessable, classes are small, and their research is tailored to each student's strengths and interests.

Because this is an applied program, we have students with a variety of backgrounds and experiences. To that end, we require all incoming students to complete the first-year sequence of theory and econometric classes. This provides those with strong math backgrounds of opportunity to hone their economics skills and those with economics backgrounds to one their math skills. It also provides the students with the opportunity to build cohort cohesion, which we find to be positively correlated to retention and successful completion of the program.

### *Undergraduate Recruitment*

The Economics Department has an informative departmental web page that includes its own developed videos and brochures to inform students of our course offerings and discipline. Students who perform well in our principles of economics class are contacted by the department chair and invited to take additional economic classes. The department also holds an informal meet and greet once a year as an open house to recruit students. More recently, the department is exploring the use of [social media](#) (e.g., Twitter) to attract students to economics. Listed below is an outline of our current recruitment efforts for undergraduates:

During the summer months, UNM holds new student orientation (NSO) most weeks between the end of May and the middle of August. Incoming students spend two days on campus with a night in the dorms. They get campus tours, various presentations on academics and campus life and, near the end, academic advisement to register for their Fall semester courses. Late morning on the second day, the students attend Discovery Fair, which is a fair-like array of booths (tables, actually) providing information on student support services, student organizations, and a few academic programs.

Since summer 2017 Economics has participated in this undergraduate program with a booth. Members of the undergraduate committee taking the majority of the responsibility for running

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<sup>18</sup> During the 202-2021 application cycle, due to COVID, the GRE requirement was suspended and a short video explaining why UNM economics was a good fit for an applicant's goals was required instead. Due to the ongoing impact of COVID, the GRE requirement will be suspended for the 2021-2022 application cycle as well.

the booth. Other faculty and a few graduate students also helped participate when available. The Department of Economics has continued to participate in NSO every summer since 2017. Discovery Fair is a long-run recruitment effort – incoming Freshmen are, in principle, a year away from declaring a major. Beginning in 2018, NSO included a similar event for transfer and non-traditional (TNT) students in which the Department of Economics has participated every year. These are often students who have already completed the introductory (principles) course requirements and are able to declare their majors on admission. This is a more immediate recruiting opportunity.

Discovery Fair and TNT events were curtailed in Summer 2020 due to COVID-19. NSO went virtual and the Department of Economics produced a six-minute video in lieu of the booth/table. The video is viewable [here](#). During 2021, the NSO continued the use of the YouTube videos created for 2020 but had in-person orientations as well. The Department of Economics participates in both.

The department has also developed general education courses with a specific regional focus to attract students to the major. For example, formal course modifications include an ECON 2120 course with a module on sustainable water resources that was developed that was also enhanced to be an equitable learning environment as part of a national Student Experience Project.<sup>19</sup> The course aims to connect students more with our local community by bringing in “local” teaching materials such as water scarcity in Southwest US, water resources management, and analysis of policies implemented by the local water utility. This is a prototype that the department can build upon to tailor undergraduate education to the student body and regional interests. Informally, faculty members often focus field courses on regional problems. For example, the senior-level resource course has been recently taught with a focus on water issues in the southwest.<sup>20</sup>

### *Undergraduate Retention*

The UNM [Center for Academic Program Support](#) (CAPS) usually offers tutors for undergraduate Economics courses. In the past the Economics Department had some input to that process, but changes in CAPS procedures, including switching to predominantly online tutoring, have changed that. From Spring 2017 through Fall 2018, the Economics Academic Advisor held office hours at the Women’s Resource Center. Through coordination with the Department of Economics, the CAPS Economics tutor held tutoring sessions in conjunction with Economics academic advising at the Women’s Resource Center.

**4B: Admissions** *Discuss the unit’s admissions criteria and decision-making processes (including transfer articulation(s)) for both undergraduate and graduate programs. Evaluate the impact of these processes on enrollment.*

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<sup>19</sup> Professor J. Wang designed the course. This brings her research together with her teaching and also fits with one of the university’s “Grand Challenge” research areas.

<sup>20</sup> Professor R. Berrrens brings SW water issues and policy discussions into the course.



## Graduate Admissions

The basic requirements for admission to graduate study at UNM consist of a bachelor's degree and a cumulative GPA of at least 3.0 during the last two undergraduate years. International students must also provide evidence to their English language skills (e.g., minimum TOEFL scores) and of their ability to cover tuition and living expenses while studying at UNM.

Additional departmental requirements include a semester of calculus and one of statistics. With the exception of the 2020-2021 admission cycle (and now the 2021-2022), recent GRE scores are also required. The exception is due to the pandemic and the difficulties this has placed on a number of international applicants to be able to take the exam. In addition, it is recommended that students have at least 12 hours of upper division economics courses including intermediate microeconomics and macroeconomics. A course in linear algebra is also suggested for all PhD students.

A complete application, in addition to the above requirements includes a letter of intent, three letters of recommendation, and curriculum vitae. The deadline for international applicants and for domestic applicants seeking funding is February 15th. Committee members review complete application packets individually and then the committee as a whole discusses completed applications to determine which applicants will be admitted to the program and to rank applicants for funding consideration. In past years, applicants who were high in our rankings were often invited to interview with a subset of the graduate committee.

Admittance letters and funding offers are made as soon after the deadline as possible (often within a week) in order to vie for our top applicants. Because UNM is a member of the [Council of Graduate Schools](#), applicants do not have to make a binding acceptance until April 15th, often resulting in top applicants waiting until the deadline in order to see all offers made to them from departments. Because we have to balance funding offers with the funds available, the department is not able to make multiple offers for each available funded seat, but rather must make them in sequential order - if an applicant declines funding, we then go to our next ranked applicant.

While we consider GRE scores important, we do not impose a minimum. Given the applied nature of the program, the diverse set of applicants, and the small size of the faculty, we find that in addition to the traditional metrics, an applicant's interests and how closely they align with the departmental strengths is a necessity for success. That said, the average verbal and quantitative GRE scores from 2016-2020 are 152 and 157, respectively. Table 4.1 provides average verbal and quantitative GRE scores for enrolled PhD and MA students from 2016 through 2020. During the 2020-2021 cycle, in lieu of the GRE, applicants were asked to provide a brief video that explains why the program is a good fit for their endeavors. The impact of our GRE decision on student success will be a question potentially answered in the future.

Table 4.1: Average GRE Scores

Year	Verbal	Quantitative
2016	154	159
2017	148	158
2018	153	157
2019	152	156
2020	154	153

The department normally receives between 45 and 55 applications in any given year.<sup>21</sup> Admission to the program, as discussed above, is viewed as a part of our retention efforts to bring in the cohort viewed to have a high probability of success in completing the program, as well as to have diverse cohorts. This, of course, has to be considered in tandem with the need to bring in cohorts large enough to support the current graduate curriculum of three specialty fields. Balancing these two, somewhat divergent, objectives can result in variation in the caliber of the cohort in any given year.

Table 4.2 through 4.4 provide the data on applications and admissions, and enrollments between academic year 2016 and 2021. Note this data is internal departmental data and so provides more years than does other university data.

First, our MA applications have been very small, which is to be expected since this has not been a focal point of the program. The number of male MA applicants is larger than females, but the number of enrollments is similar.

In the PhD program, again, the number of male applicants is substantially larger than the number of female applicants.

Table 4.2: Master's Applications, Admissions, and Enroll

YEAR	MASTER'S								
	Male			Female			Total		
	App	Admit	Enroll	App	Admit	Enroll	App	Admit	Enroll
2016-2017	4	1	1	0	0	0	4	1	1
2017-2018	3	2	0	3	1	1	6	3	1
2018-2019	1	1	1	0	0	0	1	1	1
2019-2020	0	0	0	1	1	1	1	1	1
2020-2021	1	0	0	2	2	0	3	2	0
2021-2022	3	2	2	1	1	1	4	3	3
TOTAL	12	6	4	7	5	3	19	11	7

Table 4.3: PHD Applications, Admissions, and Enroll

YEAR	PHD								
	Male			Female			Total		
	App	Admit	Enroll	App	Admit	Enroll	App	Admit	Enroll
2016-2017	27	17	7	16	7	4	43	24	11
2017-2018	33	26	7	14	10	1	47	36	8
2018-2019	30	16	10	14	6	2	44	22	12
2019-2020	23	21	8	9	7	2	32	28	10
2020-2021	27	6	1	17	11	5	44	17	6
2021-2022	29	17	3	16	11	6	45	28	9
TOTAL	169	103	36	86	52	20	255	155	56

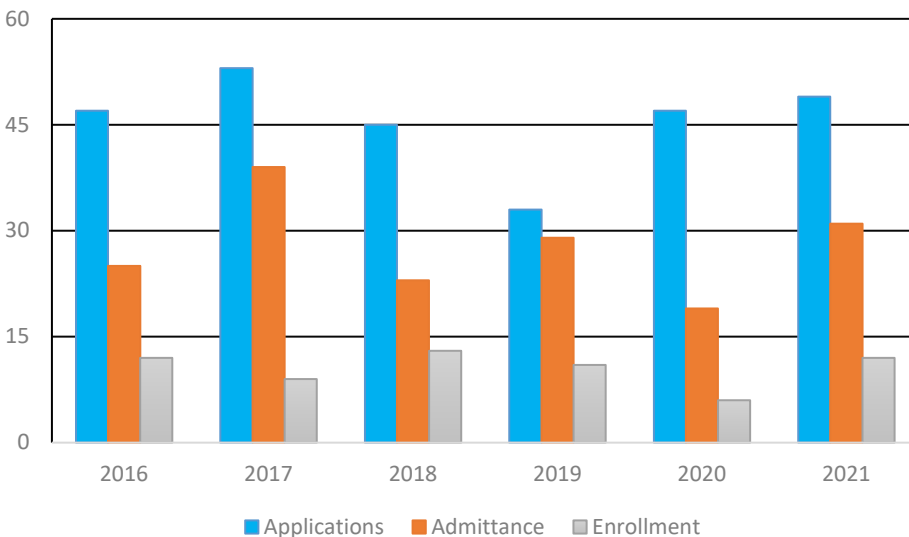
<sup>21</sup> The 2019 academic year was somewhat of an anomaly with only 33 completed applications.

Table 4.4: Graduate Applications, Admissions, and Enroll

YEAR	All GRADUATE STUDENTS								
	Male			Female			Total		
	App	Admit	Enroll	App	Admit	Enroll	App	Admit	Enroll
2016-2017	31	18	8	16	7	4	47	25	12
2017-2018	36	28	7	17	11	2	53	39	9
2018-2019	31	17	11	14	6	2	45	23	13
2019-2020	23	21	8	10	8	3	33	29	11
2020-2021	28	6	1	19	13	5	47	19	6
2021-2022	32	19	5	17	12	7	49	31	12
TOTAL	181	109	40	93	57	23	274	166	63

The final aspect of recruitment and admissions is the number of students who attend, relative to admissions and acceptances. Graph 4.1 presents enrollments relative to completed applications and admittances and graph 4.2 breaks this information out by male and female. Blue indicates completed applications, red indicates admittances, and green indicates enrollments. Graph 4.1 shows that application numbers were relatively similar in all years except 2019. Admittances to the program are substantially smaller than the number of applicants we receive. In an ideal world, we would hope that those who actually enroll in our program would be very similar to the number accepted. As can be seen from the graph, this is not the case. The larger the difference between the two indicates a large number of those admitted do not ultimately attend the program. This is a result of our sequential funding offers, competition for applicants from other applied departments, and our funded offers, which are not as strong as those from other applied departments. The last factor has been a persistent problem in the department and has been exacerbated by declining GA support from CAS, uneven external funding from the department, and time to completion for a number of PhD students.

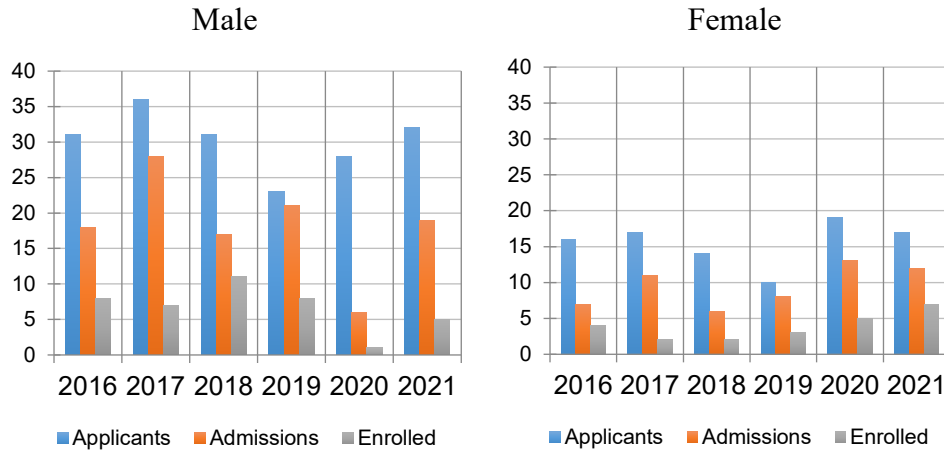
Graph 4.1: Number of Students Admitted and Enrolled (2016-2021)



Applications for both males and females reflect similar patterns, with 2019 being a low year in terms of applications for either males or females. With the exception of 2020, the number of admittances relative to the number of applications is similar (i.e., similar percentages). The

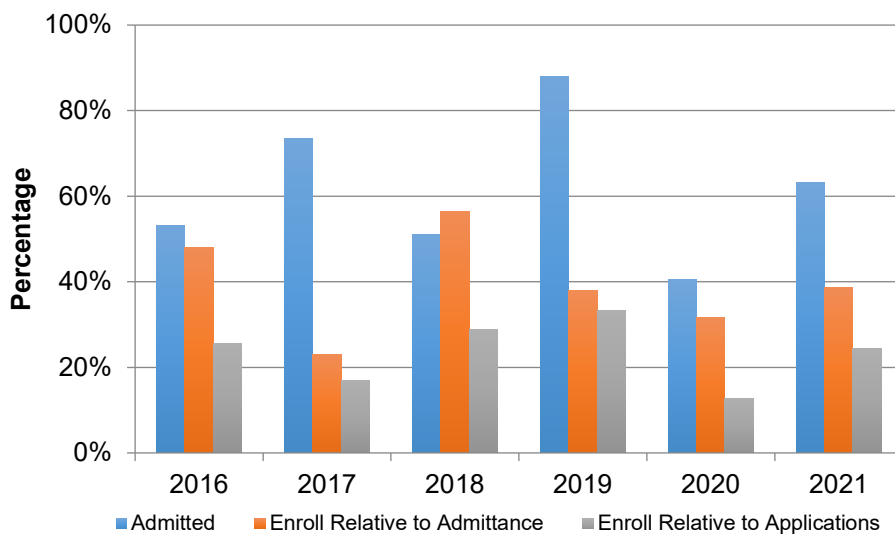
number of males who attend, relative to the number admitted is slightly smaller than the number of females who choose to attend relative to those admitted.

Graph 4.2: Admittances and Enrollments Males and Female (2016-2021)



Graph 4.3 shows that the percentage of students admitted from the completed applications, and the percentage enrollments relative to the number of complete applications and the percentage enrollments relative to admittance. The percentage of admittances varies year to year and depends on the number of complete applicants. For example, in 2019, we admitted over 80% of applicants, but total complete applications were low at 33, which is more than one standard deviation away from the mean.

Graph 4.3: Graduate Admittances and Enrollments in Percentages (2016-2021)



Percentage-wise, over this time period there was a similar admission rate to the program by gender (60% of female applicants compared to 62% of males). Also, there was a similar percentage of females and males that were admitted who eventually enrolled (40% of females

and 36% of males enrolled). A final measure that that can be used to compare enrollment rates by gender is the number of enrollments compared to completed applications. From our data, 25% of females who completed an application enrolled in the program, compared to 22% of males.

### *Undergraduate Admissions*

Undergraduate students seeking a major in economics must apply to CAS for admission into the college. Student must meet the college wide requirements:

#### General Education Curriculum

Communication, Math, Second Language and a minimum 26 earned hours and a minimum 2.0 GPA overall. In addition to the college wide requirements for admission, each department of major requires specific courses that apply to their program (e.g. economics 2110 and economics 2120).

#### **4C: Data**

*Provide available data and an analysis of the unit's 1) enrollment, 2) retention, and 3) graduation (i.e. time to degree, graduation rates, etc.) trends. Please provide data and analysis on enrollment, retention and graduation rates for students by race/ethnicity, gender, first generation, and Pell grant status, where possible. Include an explanation of the action steps or initiatives the unit has taken to address any significant challenges or issues highlighted in these trends. When possible, data should be obtained from a UNM source such as MyReports or OIA. The APR office will assist with identifying appropriate data sources.*

Unless otherwise noted, the Office of Institutional Analytics (OIA) at UNM provided data for enrollment, graduation rates and retention with no identifiers. All data are for the main Albuquerque campus.

### *Graduate Program*

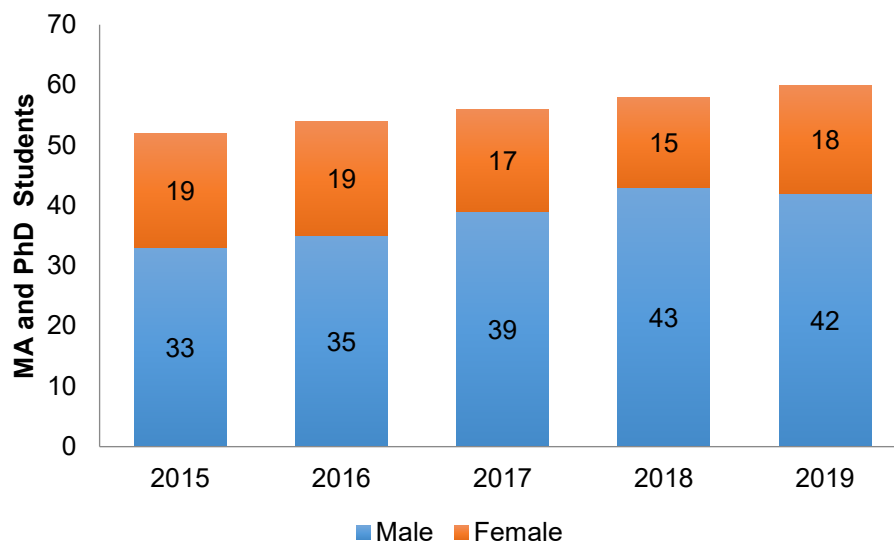
The department's graduate student enrollment numbers have been steady over the last several years. As seen in graph 4.4, combining MA and PhD numbers, we've increased the total number of graduate students from 52 students in 2015 to 60 in 2019.<sup>22</sup> Table 4.3 also presents the reported gender breakout. Our cohorts averaged 31% female over the five-year period, going as low as 26% in 2018 and as high as 36% in 2015. The department's percentage of female students is consistent with the share of women in entering economics graduate programs in 2017.<sup>23</sup>

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<sup>22</sup> Because our stand-alone MA numbers are small, we report graduate students rather than a breakout by the PhD and MA programs, where MA students account.

<sup>23</sup> Boustan, L. and A. Langan (2019). Variations in women's success across PhD programs in economics. *Journal of Economic Perspectives*. 33(1): 23-42.

Graph 4.4: Economics Graduate Students by Gender: 2015-2019



In 2019, the economics doctoral program was the 4th largest in the College, contributing 6.8% of the total enrollment. Compare this to the 2016 academic year, when the program was the 11th largest in the College, contributing 2.6% of total enrollment. As noted earlier, our enrollment has stayed steady, suggesting that other programs are contracting in size.

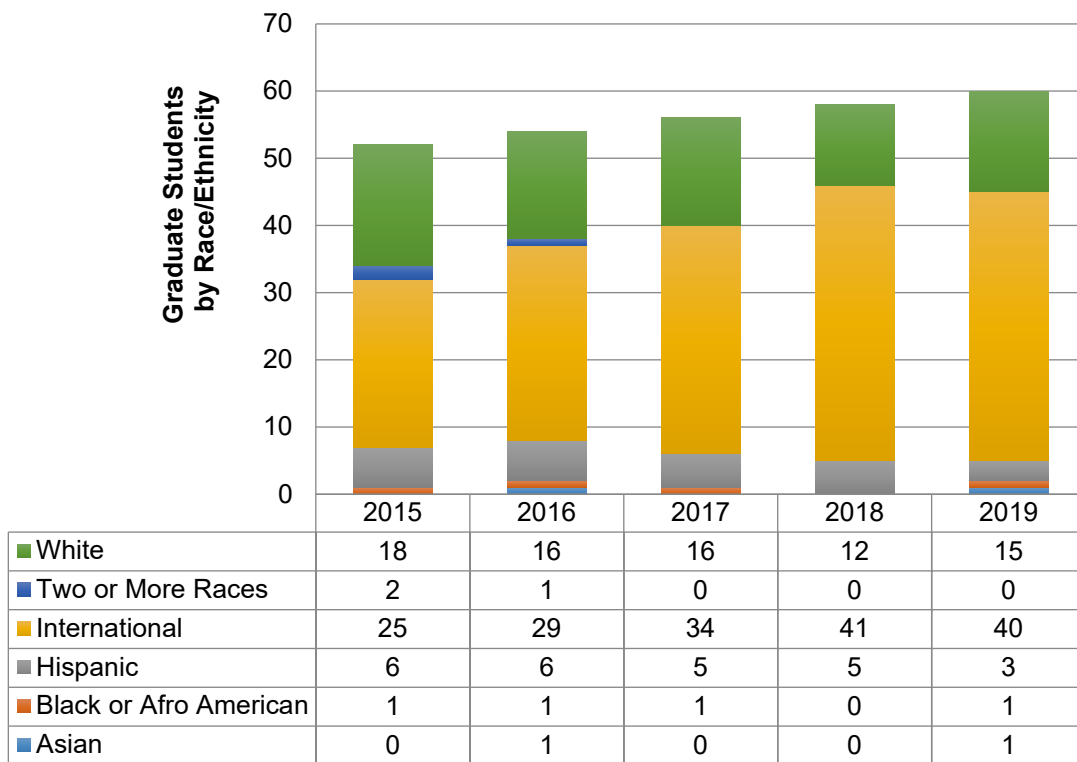
From self-reported data, ethnically, our graduate student body is predominantly white or international, as indicated in graph 4.5. Even though we are a minority-serving institution, the competition from other institutions in recruiting minority students is substantial. This coupled with small number of minority applicants, has made recruiting minority students an increasing challenge for the department. The department had a strong relationship with UNM’s Robert Woods Johnson Foundation (RWJF) Center for Health Policy from its inception in the late 2000’s through the end of UNM’s contract with the RWJF in 2018. This provided an exceptional program, focused on training a diverse group of next generation of health policy experts. The program provided support to students through fellowships, as well as academic and professional development. With the end of RWJF’s financial support for the program, a vital recruiting tool for the department was lost.

The department is moving forward with efforts to increase the diversity in our graduate student population. These actions range from the graduate committee (and other faculty) efforts to recruit individual students, to applying for grants targeted at increasing diversity in the STEM fields, to outreach to specific communities. For example, our focus on recruiting from McNair fellows, discussed previously, is one such effort. The department has participated in grant applications focused on enhancing support for our graduates through innovative, shared activities across a number of social science departments.<sup>24</sup> Faculty from the department participate in an [NSF](#)

<sup>24</sup> Most recently, the department participated in a 2020 NSF grant proposal to expand graduate student diversity in the social sciences at UNM, which, unfortunately, was not funded.

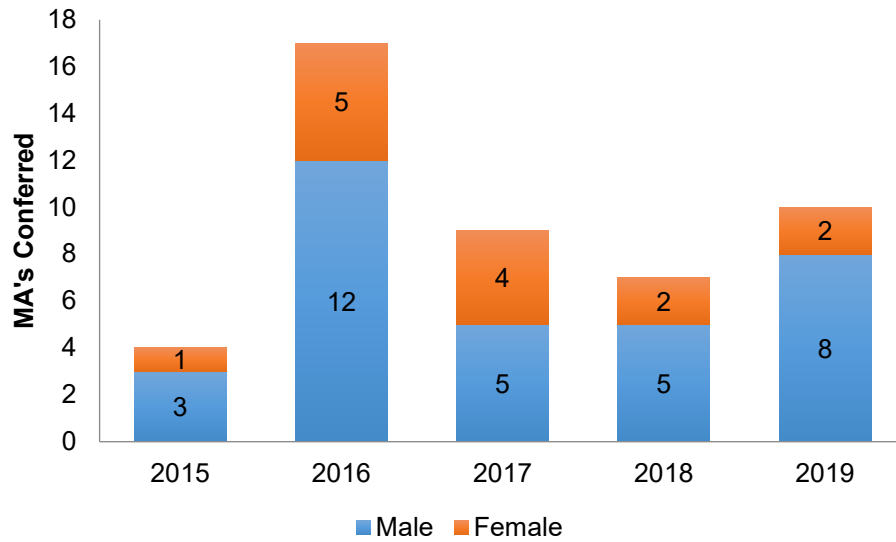
[CREST Center](#) housed in the School of Engineering, that focuses on increasing participation of underrepresented minorities in the STEM professions. The department has had an ongoing effort, in conjunction with our development officer, to foster stronger ties between the department and the Navajo Nation in order to create a path for Native American scholars to our graduate program through an endowed scholarship program. This effort was showing promise, but was interrupted by the pandemic. The department will work to re-establish these ties and the progress made. Individual faculty efforts are also ongoing, ranging from individual recruitment efforts at other economics departments to serving on mentoring committees for various organizations. The department will continue to strive to increase the diversity of our graduate program.

Graph 4.5: Economics Graduate Students Race/Ethnicity: 2015-2019



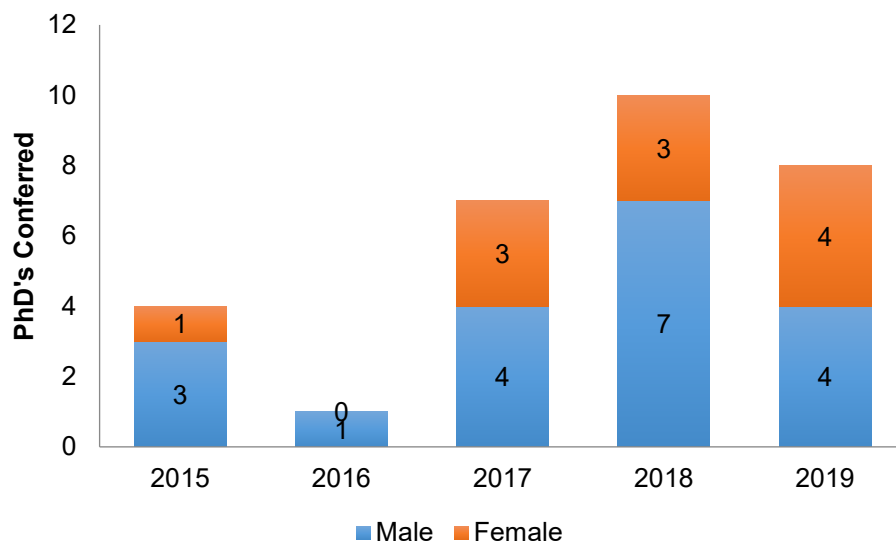
The number of PhD and MA economics degrees conferred are provided in graphs 4.6 and 4.7, broken out by gender. While the number of MA students is small, the number of degrees conferred is relatively large, as most PhD students earn an MA in route to their PhD. The large number of MA degrees in 2016 was mainly attributable to two factors: 1) encouraging PhD students to formally apply for the MA degree, and; 2) students who took multiple attempts to pass the comprehensive exam, which either backlogged student matriculating to the PhD, or students receiving the MA and exiting the department. Since 2016, the number of MA's conferred is more consistent with the number of graduate students admitted the prior year.

Graph 4.6: MA Degrees Conferred by Gender: 2015-2019



The department averaged six PhD degrees per year over the 2015-2020 period, but this varies from one to 10 in any given year. The lumpiness is due to several factors including size of the admitted cohort, preparedness of entering students, the speed at which students complete the required course work and exams, the ease with which a student’s doctoral research is completed, the level of funding students receive, and, to a large extent, the degree to which an advisor provides strong encouragement to complete the degree in a timely fashion.

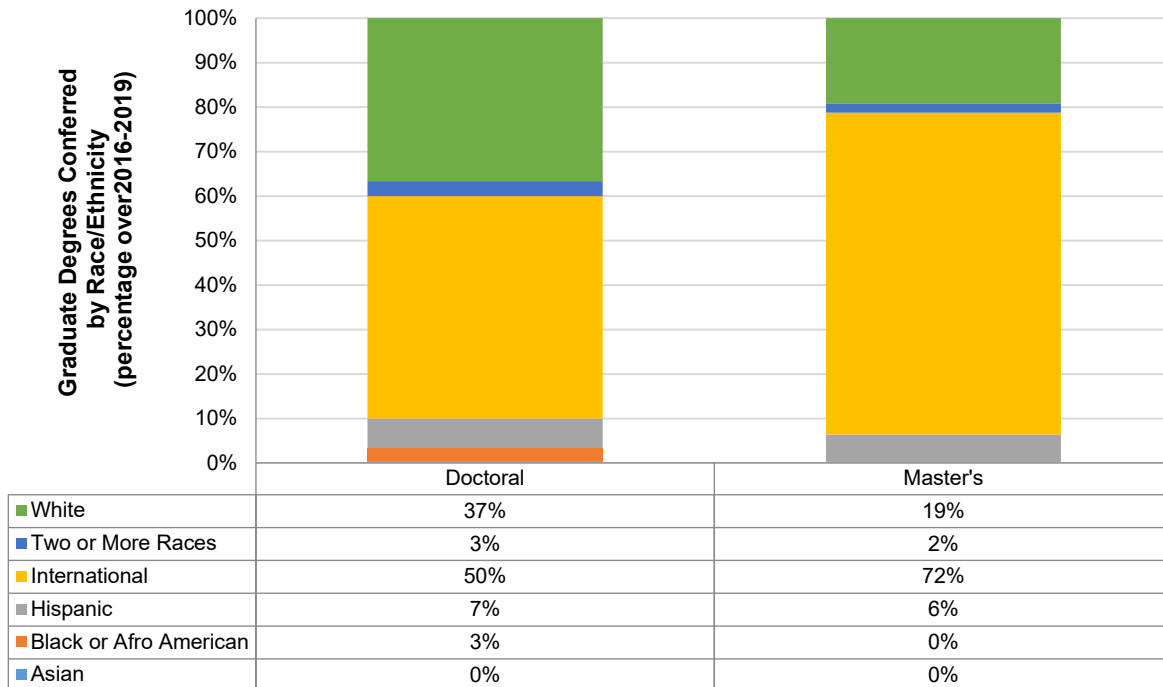
Graph 4.7: Doctoral Degrees Conferred by Gender: 2015-2019





The percentage of degrees (MA or PhD) conferred by race or ethnicity from 2015 through 2019 are presented in graph 4.8. The majority of MA degrees are conferred on international students, as are a full 50% of doctoral degrees.

Graph 4.8: Degrees Conferred by Race/Ethnicity



Doctoral degrees in economics accounted for over 6% of the doctoral degrees conferred in Arts and Sciences from 2015 through 2019 and 3% of the doctoral degrees conferred across campus, making economics the 6th largest contributing department to the College of Arts and Sciences in terms of doctoral degrees. Similarly, though the department has not had a strong focus on the MA program, we contributed over 3.5% of MA degrees conferred between 2015-2019, making Economics the 9th largest contributor to the college in terms of degrees conferred.<sup>25</sup>

<sup>25</sup> From OIA's Graduate Studies Dashboard (<http://oia.unm.edu/facts-and-figures/graduate-studies-dashboard.html>, last accessed 08/25/2021),

The time to degree varies across cohorts. Table 4.5 provides the average time to degree for the PhD cohorts from 2013 through 2016 (from departmental data). Overall, in the 2013-2016 cohorts the time to degree, for those who have completed, has been about what the department targets as normal progress. However, the percent of students completed from the 2015 and 2016 cohorts is troubling (16% and 11%, respectively). While COVID certainly slowed down progress for many students, this does not adequately explain the overall lack of completion.

Table 4.5: Time to Degree and Percentage of Cohort Completed

Entering Year	Average Time to Degree	Percent Completed
2013	6.2	100%
2014	4.8	100%
2015	5.3	16%
2016	3	11%

Overall, the graduate program has a number of bright spots. The number of female graduate students is at the national average and has increased since the 2011 APR. Also, the program is a strong contributor to the college ranking among the top in terms of enrollments and in terms of doctoral degrees.

Concerning aspects of the program are the lack of timely completions of more recent cohorts, the relatively low percentage of admittances that result in enrollment in the program, and the low numbers of minority graduate students in the program.

While there are a number of factors that most likely contribute, a major factor certainly is the lack of adequate funding to support graduate students year-round through five years of the program. Currently, an 0.5 FTE graduate assistantship for the academic year (fall and spring semesters) includes a stipend of \$14,555, plus tuition and healthcare.<sup>26</sup> Adequate funding would allow an entering student to enroll in the program and immerse themselves in their education and research uninterrupted, improving time to degree. It would also improve the competitiveness of the program with peer programs in attracting more top prospects. This limiting factor of funding resources reflects reduced support from the college and lack of adequate funding (internal or external) by faculty to graduate students in the program.

Funding and budget trends are discussed in more detail in Criterion 5, 6 and 8.

### *Undergraduate Program*

As with the graduate program, data provided by the OIA are utilized. The analysis provided below is based on first majors only.<sup>27</sup> Students enrolled at UNM for the fall semester from 2016

<sup>26</sup> For comparison, the three peer institutions we compare the department to in Criterion 7 are the University of Colorado – Boulder (CU), the University of Arizona (UA) and the University of Utah (UU). Their stipends for the academic year are CU - \$22,000 (2018); UA - \$18,000, and UU - 18,500. Our stipend is between 20% and 33% lower than these peer institutions.

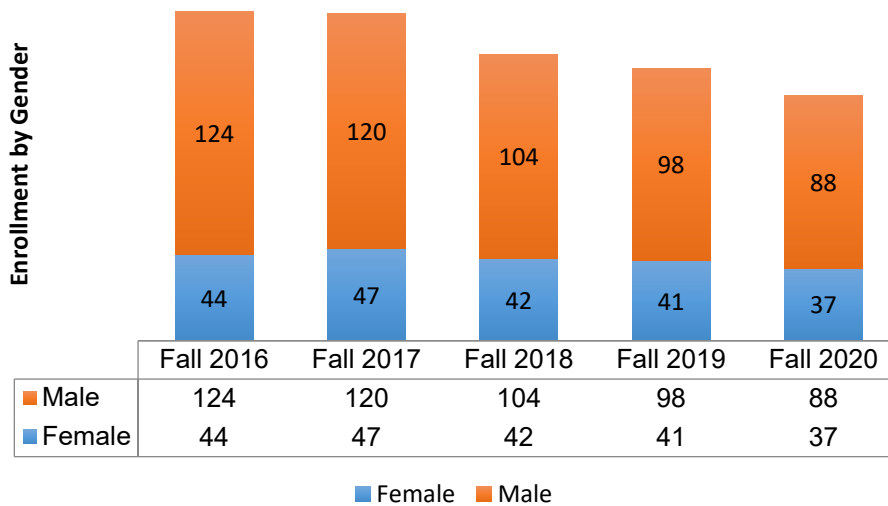
<sup>27</sup> OIA data are provided include student/year level and included variables on race/ethnicity and gender.

Retention, the percentage of full-time degree seeking freshmen who remain enrolled in a subsequent semester is also reported. As is the norm for OIA, we report retention during the third (sophomore) semester of the student. Regarding the data, each row shows students by race, full time/part time status, gender, major, who belong to the cohort that started in the fall of Year X and are still enrolled in the fall of year Y. For example, one hypothetical row shows that there are five enrolled students in fall 2018, who are white, full time, male, Political Sciences majors, who belong to the fall 2016 cohort of 10 students. That means that, for this row, the retention rate is 50%.

to 2020 are included. Data on second majors and minors came from the economics department academic advisor, who provided student-level reports by race and ethnicity.

Graph 4.6 provides student enrollment for fall semesters from 2016 through 2019, broken out by gender. Our undergraduate majors enrollments have declined from 168 students in 2016 to 125 in 2020. This is a 25% decline in undergraduate majors over the last five years. Female students account for about 29% of all students in any given year. While the number of female majors has declined, the decline in male majors is 30%, compared to a 16% decline in female majors.

Graph 4.6: Undergraduate Economics Enrollments by Gender



Regarding gender composition, women majoring in economics represented 26.2% in 2016 and 29.6% in 2020, as shown in table 4.7. The proportion of women in economics remains low compared to the 58.2% across the university as a whole in 2020. However, the 29.6% of female majors is consistent with national averages.<sup>28</sup>

Table 4.7: Percentage Female Economics Majors Compared to UNM (2016-2020)

Year	Percentage Female		Percentage Male	
	Economics	UNM	Economics	UNM
2016	26.2	55.4	73.8	44.6
2017	28.1	56.3	71.9	43.7
2018	28.8	56.2	71.2	43.8
2019	29.5	56.6	70.5	43.4
2020	29.6	58.2	70.4	41.8

Graduation rate data: It is built similarly to the retention data. Each row shows the number of students by race, full time/part time status, gender, major, who belong to the cohort that started in the fall of Year X, and how many had graduated in year Y. The ratio of graduated to started is the graduation rate.

The retention and graduation rates data differ from the enrollment data in that they only include students who started in the fall, who are first time and full-time students. These students could shift to part time later on but had to be first time/ full time in the fall to be counted. As a result, the count in the retention and graduation rates will differ from the enrollment data, which includes everyone.

<sup>28</sup>Ahlstrom, L.J. and C.J. Astrata (2019). "The Gender Gap in Undergraduate Economics Course Persistence and Degree Selection, in *AEA Papers and Proceedings 2019*: 255-260. <https://doi.org/10.1257/pandp.20191103>.

Graph 4.7 and table 4.8 present the race/ethnicity composition of undergraduate majors. Over the time period, 43% of economics majors were white and 39.3% were Hispanic. In contrast, for UNM at large, 32% of students were white and 48.8% were Hispanic. Regarding growth, the proportion of Hispanics in economics has increased from 35% percent in the fall of 2016 to 39.3% in the fall of 2020. The proportion of American Indian, African American, and other races remains lower than the rest of the university. In contrast, the percentage of international students in economics (5.5%) between 2016 and 2020 more than doubles that of UNM (2.2%).

Graph 4.7: Undergraduate Race and Ethnicity

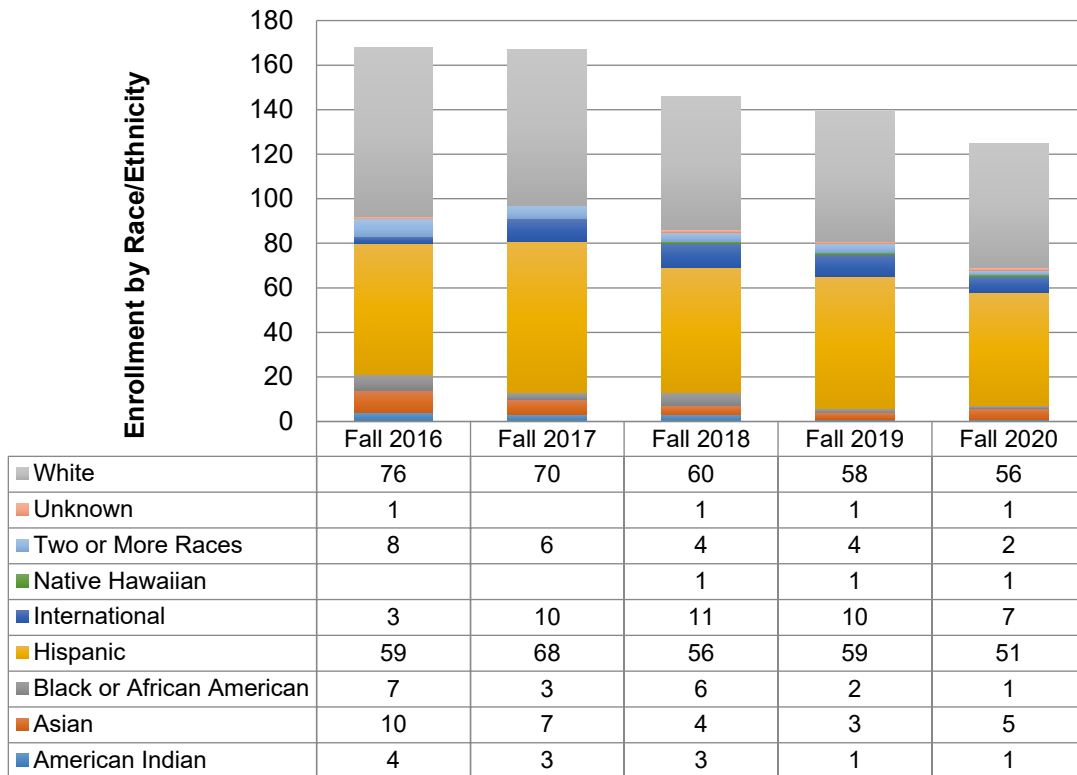


Table 4.8: Student Composition by Percentage (Fall Enrollments)

Year	American Indian	Asian	Black or African American	Hispanic	International	Native Hawaiian	Two or More Races	Unknown	White
2016	2.4	6.0	4.2	35.1	1.8	0.0	4.8	0.6	45.2
2017	1.8	4.2	1.8	40.7	6.0	0.0	3.6	0.0	41.9
2018	2.1	2.7	4.1	38.4	7.5	0.7	2.7	0.7	41.1
2019	0.7	2.2	1.4	42.4	7.2	0.7	2.9	0.7	41.7
2020	0.8	4.0	0.8	40.8	5.6	0.8	1.6	0.8	44.8
Average	1.6%	3.9%	2.6%	39.3%	5.5%	0.4%	3.2%	0.5%	43.0%

Table 4.9 provides four-, five- and six-year graduation rates for full-time, first time students, comparing the university at large and economics majors for student admitted from 2010 through 2016. The graduation rates for five and six years are cumulative. Economics majors' graduation rates are higher across all incoming years for the four, five, and six-year graduation rates except for the 2015 cohort and the four year and five-year graduation rate. Over the time period, the economics four-year graduation rate peaked for the incoming 2013 cohort and was at an all-time low for the incoming 2015 cohort.<sup>29</sup> In general, economics majors graduate at higher rates and earlier than UNM as a whole.

Table 4.9: Four-, Five- and Six-Year Graduation Rates for First Time Students

Year Admitted	Four Year Graduation			Five Year Graduation			Six Year Graduation		
	Econ	UNM	dif	Econ	UNM	dif	Econ	UNM	Dif
2010	30.0	16.4	13.6	40.0	36.4	3.6	40.0	43.8	(-3.8)
2011	45.5	18.9	26.6	45.5	41.3	4.2	54.5	47.9	4.2
2012	46.2	21.6	24.6	53.8	42.9	10.9	61.5	49.5	10.9
2013	50.0	29.2	20.8	72.7	48.1	24.6	72.7	53.3	24.6
2014	36.0	34.0	2.0	52.0	50.5	1.5	60.0	55.6	1.5
2015	30.4	33.8	(-3.4)	39.1	49.2	(-10.1)	--	--	--
2016	47.1	35.3	11.8	--	--	--	--	--	--

Tables 4.10 reports graduation rates by gender for incoming 2010 to 2015 cohorts of full-time, first time students, respectively. Regarding gender, four-year graduation rates for women in economics is higher than for UNM students (male or female) at large. They are also, in general higher than the four-year graduation rate for men.

Table 4.10: Graduation Rates by Gender (2010-2016 Cohorts)

Year Admitted	Female		Male	
	Economics	UNM	Economics	UNM
2010	50%	20%	33%	15%
2011	25%	22%	56%	15%
2012	50%	26%	62%	17%
2013	100%	35%	29%	23%
2014	35%	39%	18%	28%
2015	38%	40%	10%	31%
2016	50%	41%	43%	32%

Table 4.11 presents the four-year graduation rate for economics Hispanic and NHW students for the 2010 through 2015 cohorts. In 2010-2012 there was a higher graduation rate for NHW students and in 2013-2014 there was a higher graduation rate for Hispanic students.

<sup>29</sup> One potential correlation to this low graduation rate may be the NM unemployment rate, which declined from about 7.5% at the beginning of 2017 to slightly under 5% by second quarter 2018. This may have induced some econ majors to leave school before completing their degree, or to slow down their completion. However, this requires more analysis.

Table 4.11: Hispanic and non-Hispanic White Economics Majors and UNM Graduation Rates

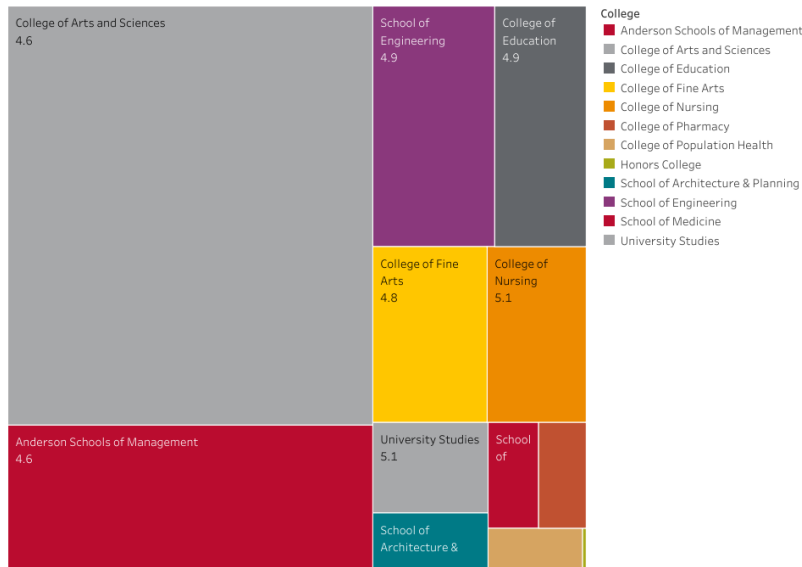
Year Admitted	Four Year Graduation		Five Year Graduation		Cohort size		
	Hispanic	NHW	Hispanic	NHW	Hispanic	NHW	Economics
2010	0%	50%	33%	50%	3	9	15
2011	50%	63%	50%	63%	8	6	16
2012	25%	70%	25%	87%	4	18	29
2013	69%	52%	88%	69%	25	25	59
2014	40%	21%	60%	43%	16	21	37
2015	25%	26%	25%	39%	4	12	16

Years to graduation has improved both economics majors and for UNM in general, as shown in table 4.12 and figure 4.1. The average time to degree has declined from 6.6 years for the 2010 incoming cohort to 4.6 years in 2014 incoming cohort. This is consistent with the larger UNM cohorts. For both, this coincides with a 2012 UNM initiative to streamline the start-to-finish path of students and an overhaul of remedial courses.

Table 4.12: Average Years to Graduation Comparison of Economics Majors to UNM

Year Admitted	Economics	UNM
2010	6.6	6.9
2011	6.0	6.3
2012	5.6	5.7
2013	5.1	5.1
2014	4.6	4.6

Figure 4.1. Time to Degree by College for Graduates in 2019-2020 in years<sup>30</sup>



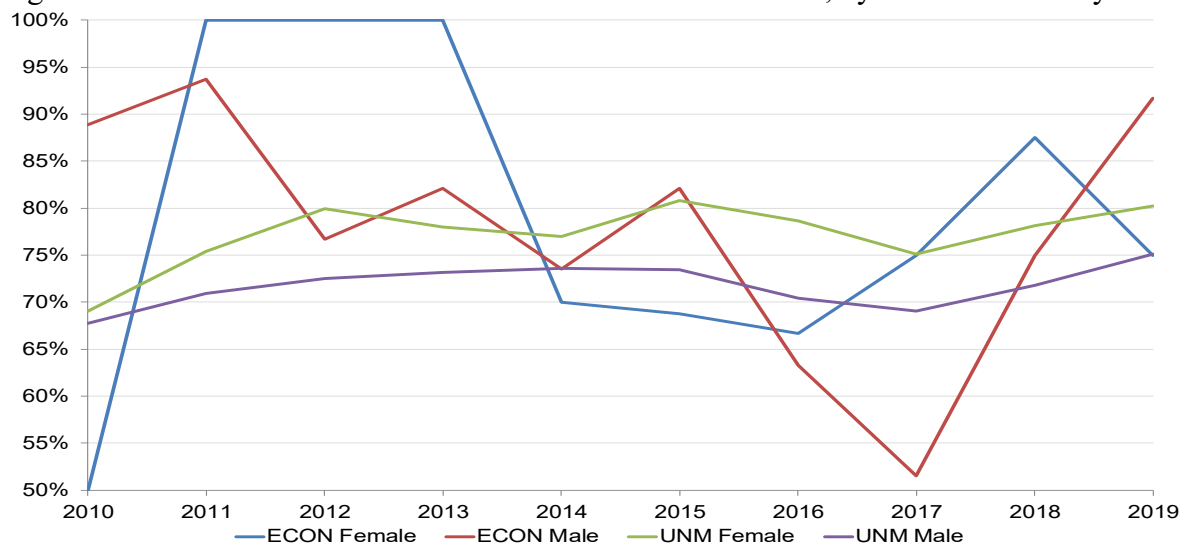
<sup>30</sup> Source: UNM Office of Institutional Analytics. Facts and Figures.

## Retention

Retention rates are the percentage of full-time/first-time students that are still enrolled during their third semester. Figure 4.4 presents percentages by gender and year of admittance (2010-2019) for economics majors and for UNM. Retention rates are, on average, comparable for men (76%) and women (78%) in economics and are consistent with the UNM average (77%).

As shown in figure 4.4, retention for Hispanic and non-Hispanic whites in Economics is similar (76%), on average to UNM (77%) for students between 2010 and 2019, though there is more fluctuation in economics. For instance, 100% of white economics majors in the 2019 cohort were still enrolled in their third semester.

Figure 4.4: 3rd Semester Retention Rates: Economics and UNM, by Gender and Entry Year



**4D: Advisement Practices** *Discuss the unit's advisement process for students, including an explanation of how the unit has attempted to improve or address issues regarding its advising practices and to ensure inclusiveness and equity in advising.*

### Graduate Program

The graduate program utilizes the same advising practices for both the MA and the PhD program. The majority of advising is done within the department. Initial advisement for graduate students focuses on course work, understanding normal progresses, and considering their trajectory to their degree. The graduate director(s) and committee (to a lesser extent) are the academic advisors for all incoming graduate students. All incoming graduate students must have their first and second semester course schedules approved by the Graduate Director. This also applies to all non-degree students who plan to apply for admission to graduate school. In addition, the graduate director (and committee, at the discretion of the director) have "cohort"

meetings with the incoming cohort to introduce them to the program, the requirements, and the paperwork. The graduate director is, de facto, the advisor for all graduate students until the point they form their Committee on Studies (COS) for PhD students or their thesis committee for MA students. This means for the first one to two years the graduate director is the advisor for all graduate students. For continuity, the graduate director also holds cohort meetings for each cohort at the beginning of the fall semester to provide uniform guidance as the cohorts progress through the program.

When a graduate student officially forms their Committee on Studies (or thesis committee, for a Plan I MA student), advisement moves from the graduate director to the committee and the chair of the committee. As soon as this committee is formed the COS (or thesis) chair (and other committee members) becomes the student's major advisor and assists the student in the preparation of their Program of Studies and their research requirement (RR) paper. In addition, the COS chair will approve the student's curriculum for the upcoming semester prior to approval by the graduate director. This continues until the student successfully completes their RR, which should be no later than the end of their third year, if the student is making normal progress.

At the completion of the RR, a student moves to dissertation mode and the main advisor becomes the student's dissertation advisor. This may or may not be the COS chair. Academic advisement is the responsibility of the dissertation advisor for the rest of the student's tenure at UNM.

In addition to the COS and/or the thesis/dissertation committees, the graduate director, the department chair, and other faculty are available to advise and otherwise assist the student. The purpose of this formal and informal advisement is to ensure the student's timely progress in the program and to assist the student in the development of her/his desired field.

The Coordinator, Graduate Program also plays a large role in advisement of our graduate students. This advisement focuses on timely completion of requirements of the university and the coordinator often acts as the conduit for practical knowledge for students in the program.

Outside of the department, graduate students can avail themselves to a variety of advisement and educational services provided by Graduate Studies This includes [Professional and Academic Workshops](#) [Thesis and Dissertation Manuscript Workshops](#), and the [Graduate Teaching Academy](#). The Global Education Office offers [workshops](#) that can be viewed on their calendar. The [Graduate and Professional Student Association](#) offers a variety of different types of student support, as well as other entities on campus.

### *Undergraduate Program*

All students in the College of Arts and Sciences are required to meet with an advisor at critical transition points in their academic career. Each visit is intended to ensure the students are equipped with specific information to be able to move forward while getting the most out of their college experience. Students are always encouraged to meet with their advisor; the following advising meetings are however mandatory:



### *New Student Orientation*

The objective is to introduce students to UNM academic expectations, policies, and procedures. Teach students how to utilize UNM technology for registration and communication purposes. Help students register for their first semester at UNM. Make sure UNM has students most up to date ACT, SAT, and dual credit coursework to make sure students are not retaking classes they have already received credit for. Briefly go over the economics major and other UNM graduation requirements.

### *New Student Learning Workshop*

The objective is to assist students in identifying academic resources, recognizing and scheduling department admission requirements for the next year and utilizing the degree audit. Help students navigate some of UNM's most important websites like the Registrar's website, UNM's catalog, and UNM's scheduling website. Walk students through their audit to help them learn the difference between UNM's graduation requirements, College of Arts & Sciences graduation requirements, and major graduation requirements. Students create a mock class schedule for the upcoming semester to have them start thinking of what courses they need in order to continue making progress towards graduation.

### *Economics Department Orientation*

The department orientation helps integrate students into the department, and explain nuances of degree completion. The department offers opportunities to enhance the student experience including but not limited to research, internships, and scholarships. The Department Orientation goes over all of the major's graduation requirements to make sure no students are confused on what is expected of them in order to graduate. Various departments come and give short presentations on what they offer and how it benefits students like Career Services, CAPS, McNair Scholars, MBA 3-2 program, and MPA shared credit program. Advisor and undergraduate director inform students of resources at their disposal to help them be successful students. Economic faculty and students from the economics club also make presentations to make all students welcome and aware of resources to be successful economic majors.

### *Undergraduate Graduation Planning Workshop*

Graduation planning helps teach students to analyze outstanding degree requirements via degree audit; to plan coursework to meet both specific and general requirements; to project intended graduation date. The Graduation Planning Workshop helps students be aware of what they need to still complete in order to graduate. Students look at how many credit hours they need to meet UNM's minimum graduation requirement of 120. Students also look at how many Arts & Sciences, upper division, major, and if required minor credit hours they still need to graduate. Once a student calculates their graduation date, they email their information to their advisor to have their graduation information uploaded into Banner 9 and counts as their official graduation application.

### *Economics Academic Advisement*

For consultation on degree requirements, minors/2nd majors, academic holds, class scheduling/semester planning, advisement paperwork, or referrals to campus resources, students work with the CAS's Economics Advisor, N. Faust-Shucker. For consultation on course choices, internships, graduate school planning and careers, students can consult the Undergraduate Director(s).

**4E: Student Support Services** *Discuss any student support services that are maintained by the unit and evaluate the relevance and impact of these services on students' academic success.*

### *Graduate Program*

The department does not have formal support services that are maintained by the unit outside of the advisement of students that was already discussed. Beyond academic advisement, the department directs students to support units and systems that are maintained within other units and areas of the university.

### *Undergraduate Program*

The Department of Economics does not directly sponsor other undergraduate student support services; however, the economics department works closely with several units on campus that provide direct student support services to promote academic success of our students. For both the graduate and undergraduate programs, the following programs are available:

The [\*Women's Resource Center\*](#) (WRC) is a place of advocacy, support, and safety for all members of the University of New Mexico and greater community. The WRC provides the tools and resources necessary to enhance success within academic, personal, and professional aspects of students' lives. At times, our undergraduate advisor has held office hours for our students at the WRC.

[\*Accessibility Resource Center\*](#) (ARC) recognizes individuals with disabilities as an integral part of a diverse community and is committed to the provision of comprehensive resources to the University community (faculty, staff, and student) in order to create equitable, inclusive, and practical learning environments. ARC provides an array of services (e.g. testing accommodations, electronic textbooks, speech and hearing assistance) to students who qualifies for accessibility accommodations.

[\*UNM Office of Career Services\*](#) supports the mission, academic programs, and advancement of the University of New Mexico. Within this context, the primary purpose of the Career Services Center is to assist students and alumni in developing, evaluating, and/or implementing career, education, and employment decisions.

In addition, undergraduate students can access the *Center for Academic Program Support* (CAPS) is the learning assistance program available to UNM students enrolled in undergraduate classes. All CAPS tutors are UNM upper-division undergraduates and graduate students that

have undergone intensive training. CAPS offer learning assistance in most undergraduate courses in a variety of formats: Supplemental Instruction, online tutoring, drop-in tutoring, workshops, and language conversation groups. CAPS tutor-training program is nationally certified by the College Reading and Learning Association (CRLA). Undergraduate and graduate economics students are often hired by CAPS as student tutors for economics courses.

**4F: Graduate Success** *Discuss the success of graduates of the program by addressing the following questions:*

- *How does the unit measure the success of graduates (i.e. employment, community engagement, graduate studies, etc.)?*
- *What are the results of these measures?*
- *Discuss the equity of student support and success across demographic categories.*

### *Graduate Student Success*

Graduate success is measured through a number of facets, but mainly focuses on the completion of the desired degree, completion in a timely fashion, and the student career trajectory after completion of their degree. While it is not feasible to follow a former student's entire career, we have tracked initial and current placements for the majority of our students since 2011, as detailed in table 4.13. As is evident from the assessment outcomes discussed in criteria 3, we have a high level of success in placements. Those placements vary from post-docs, to tenure-track, to visiting professorships, to government and private industry. By this measure the program is successful. Specific to time to complete, the results are a bit more inconsistent. The inconsistency again may stem from those factors discussed in the assessment criteria with preparedness, funding, and advisor encouragement all playing a part in the time to complete as the average time to complete the PhD, by faculty advisor, ranges from 5.6 years to over seven years.

Support and success of students by demographics vary. Of the 52 PhD's listed in tables 4.13a and 4.13b, 31% are female. About 38% of female graduate went in to academic positions, while 47% went into business. Of the 36 male graduates, 72% went into academic positions, while 19% went into governmental positions. There is a substantial difference in the percentage of women going into academic positions relative to men and large percentage of women going into business, relative to men; however, these numbers are consistent with the profession as a whole, based on the 2020 CSWEP report.<sup>31</sup> Women, on average take slightly less time to complete (6.4 years, compared to 6.7 years). Specific to support, while we don't have the data for departmental support for graduates from 2011 forward, we can provide anecdotal evidence for our current cohorts that show no difference between monetary support for female or male graduate students in terms of stipends. This does not, however, consider any differences that there may be in advisement by faculty. Regardless, the difference in the employment directions of our graduate students is one that merits further inquiry.

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<sup>31</sup> From the 2020 Report of the Committee on the Status of Women in the Economics Profession (available at <https://www.aeaweb.org/content/file?id=13749>. last accessed 08/18/2021).

Table 4.13a: Graduate Outcomes 2011-2016

Year	Student	Advisor or Co Advisors	Initial Placement (title)	Current Placement (title)	Area	Years to Complete
2011	D. Dixon	Chermak/Grimsrud	Eckerd College (Visiting Professor)	UNM (Senior Lecturer)	ERE	6
	G. Muchnik Izon	Berrens	Eastern Washington University (assistant prof)	Eastern Washington University (Associate Professor)	ERE	6.5
	S. Chary	Bohara	NM Taxation and Revenue Department (Senior Economist)	NM Taxation and Revenue Department (Senior Economist)	IDS	6.5
2012	S. Archambault	Bohara	New Mexico State University	Cal State Poly - Pomona (Assistant Professor)	ERE	6.5
	J. Price	Bohara	U.S. EPA, Brock University (Post-doc)	University of Wisconsin - Milwaukee (Assistant Professor)	ERE	6
	H. Katuwal	Bohara/Thacher	University of Montana (Post-doc)	Tarleton State University (Assistant Professor)	ERE	7
2013	Justin Tevie	Bohara/Valdez	University of Maryland (Post-doc)	Kansas Health Institute (Senior Analyst)	PE	5.75
	D. Barber III	Krause	Armstrong State University (Assistant Professor)	East Carolina University (Assistant Professor)	PE	4.75
	J. Felardo	Chermak	Eckerd College (Assistant Professor)	Eckerd College (Associate Professor)	ERE	4.75
	M. Morrison	Fontenla/Sauer	Edinboro University of PA (Assistant Professor)	Edinboro University of PA (Assistant Professor)	IDS	7
2014	R. Fonner	Bohara	Northwest Fisheries Science Center, NOAA Fisheries (Economist)	Northwest Fisheries Science Center, NOAA Fisheries (Economist)	ERE	4.75
	J. Hwang	Bohara	Northern New Mexico College (Assistant Professor)	New Mexico Human Services Department (Economic Supervisor)	PE	7.75
	A. Prera	Thacher	Washington State University - Pullman (Assistant Clinical Professor)	Washington State University - Pullman (Assistant Clinical Professor)	ERE	9.5
	N. Nepal	Bohara	UNM Health Sciences Center (Post-doc)	Center for Microfinance - Nepal (Deputy CEO)	ERE	7.75
	G. Hendrickson	Bohara	Sandia National Laboratories (Intelligence Professional)	Sandia National Laboratories (Intelligence Professional)	PE	22.5
2015	B. Jones	Berrens/Chermak	Oklahoma State University (Post-doc)	University of New Mexico (Assistant Professor)	ERE	4
	M. Karki	Bohara/Thacher	Louisiana Tech University (Visiting Professor)	UN National Planning Commission (Policy Specialist)	ERE	6.5
	O. Odufuwa	Valdez/Binder	Price Waterhouse Coopers, LLC (Senior Associate)	Price Waterhouse Coopers, LLC (Senior Associate)	PE	5.5
	T. Oguz	Binder/Krause	Lenoir-Rhyne University (Assistant Professor)	Lenoir-Rhyne University (Assistant Professor)	PE	6.5
	H. Pitts	Thacher	NM Public Regulatory Commission (Economist)	Public Service of New Mexico (Senior Pricing Analyst)	ERE	8.75
2016	B. Dealy	Horn	US FDA (Economist)	US FDA (Economist)	PE	6.5
	W. Guo	Bohara	EZ BOO (Senior Price Analyst)	EZ BOO (Senior Price Analyst)		7

Table 4.13b: Graduate Outcomes 2017-2021

Year	Student	Advisor or Co Advisors	Initial Placement (title)	Current Placement (title)	Area	Years to Complete
2017	Q. Ma	Berrens/Thacher	Fannie Mae (Economics Modeling Analyst)	Fannie Mae (Economics Modeling Analyst)	ERE	7.75
	J. Guemmegne Tayou	Bohara/Thacher	Wells Fargo (Investment Manager)	Wells Fargo (Investment Manager)		7.75
	D. Adhikari	Chermak	Northern Virginia CC (Instructor)	South Asian Institute for Policy Analysis and Leadership (Director)	ERE	6.75
	Y. Cheng	Chermak/Thacher	The NPD Group (Analyst)	Discover Financial Services (Fraud Analyst)	ERE	8.75
	B. Bridge	Fontenla	Montana BBER (Economist & Director of Forecasting)	Montana BBER (Economist & Director of Forecasting)	IDS	6.75
2018	V. Salinas	Binder	University of Vermont (Lecturer)	University of Vermont (Lecturer)	PE	10
	G. McDermott	Bohara	Anthem, Inc. (Consultant)	Anthem, Inc. (Consultant)	PE	8.75
	J. Joshi	Chermak/Wang	Central Michigan University (Visiting Lecturer)	Hood College (Assistant Professor)	ERE	6.5
	J. Whetten	Fontenla	Presbyterian Health (Business Analytics Consultant)	Presbyterian Health (Business Analytics Consultant)	IDS	4.75
	K. Piorkowski	Bohara	Presbyterian Health (Analytics Associate)	Presbyterian Health (Analytics Associate)	PE	4.75
	J. Rubalcaba	van der Goes	University of North Carolina (Assistant Professor)	University of North Carolina (Assistant Professor)	ERE	5.75
	C. Erwin	Binder	Auckland University of Technology (Post-doc)	Auckland University of Technology (Post-doc)	PE	6.5
	S. Chowdhury	Bohara	National Council of Applied Economic Research, India (Senior Research Scientist)	National Council of Applied Economic Research, India (Senior Research Scientist)	PE	4.75
M. O'Donnell	Berrens	NM Bureau of Economic Research (Senior Research Scientist)	NM Bureau of Economic Research (Senior Research Scientist)	ERE	5.5	
2019	S. Al Mamun	Chermak	University of Minnesota (Post-doc)	University of Minnesota (Post-doc)	ERE	4.75
	E. Kalhor	Chermak	Princeton University (Post-doc)	Princeton University (Post-doc)	ERE	3
	K. Walters	Chermak	Gettysburg College (Visiting Assistant Professor)	Colorado Mesa State University (Assistant Professor)	ERE	8
	X. He	Horn/Li	Tulane University (Post-doc)	Tulane University (Post-doc)	PE	4.75
	J. Mamkhezri	Chermak	NM State University (Assistant Professor)	NM State University (Assistant Professor)	ERE	4.75
	M. Ali	Villa	Gettysburg College (Visiting Assistant Professor)	Centenary College (Assistant Professor)	IDS	6.5
	V. Rayamajhee	Bohara	North Dakota State University (Assistant Professor)	North Dakota State University (Assistant Professor)	ERE	4.5
	J. Bucheli	Bohara/Fontenla	UC-San Diego (Post-doc)	NM State University (Assistant Professor)	IDS	8.5
	S. Kunwar	Bohara	Binghamton University (Visiting Assistant Professor)	College of Saint Benedict and Saint John's University (Assistant Professor)	ERE	5.5
N. Lu	Chermak/Villa	Presbyterian Health (Analytics Associate)	Presbyterian Health (Analytics Associate)	ERE	5	
2020	J. Organ	Chermak/Villa	University of Pittsburgh (Visiting Lecturer)	Colorado College (Visiting Faculty)	IDS	5
	D. Shende	Bohara	Beloit College (Visiting Assistant Professor)	Beloit College (Visiting Assistant Professor)	IDS	4.75
	R. Bishwakarma	Berrens/Bohara	Augustana College (Assistant Professor)	Augustana College (Assistant Professor)	PE	7.5
	S. Yilmaz	Bohara	University of New Mexico (Adjunct Professor)	University of New Mexico (Adjunct Professor)	IDS	4.5
2021	M. Hensley	Santos/van der Goes	Grand Valley State University (Visiting Professor)	Grand Valley State University (Assistant Professor)	PE	8
	M. Liu	Villa	Gordon College (Assistant Professor)	Gordon College (Assistant Professor)	IDS	5.75

## *Undergraduate Success*

Our undergraduates distinguish themselves in public service, research, teaching, and private enterprise. Some of our recent undergraduates who have earned their BA degrees in economics and gone on to graduate school or professional school include:

- E. Leung (BA, 2020), MD program, UNM College of Human Medicine;
- D. Vaughn (BA 2019), Federal Reserve Internship, and PhD Program U-Virginia;
- L. Bayliyeva (BA, 2016), JD program at UNM Law School;
- M. Guarino (BA 2017), MS program in Applied Econometrics and Data Analytics in the Department of Agricultural and Resource Economics at the U-Arizona;
- C. Magnuson (BA, 2016), PhD in Economics at U-Wyoming;
- K. Gutierrez, (BA, 2016), PhD in Economics at UNM (awarded a national Robert Wood Johnson Foundation Fellowship to support studies);
- S. Carter, (BA, 2017), Master's program at Institut de Sciences Financières et; A. Mehta (BA, 2017), MBA program at UNM Anderson School of Management;
- B. Monge (BA 2015), UNM MD program, College of Human Medicine, and B. Smith (BA, 2009) PhD in mineral economics at the Colorado School of Mines.

Other notable success of recent BA students include:

- T. Dougher (BA, 2011), Vice President, ETF and Sector Investment Strategy Fidelity Institutional Asset Management;
  - Turner (BA, 2015) Municipal Bonds Trader, Bank of New York Mellon;
- X. Gomez-Maqueo (BA, 2015), Fiscal Analyst, International Monetary Fund;
- Landford (BA, 2013), Ecommerce Specialist, with AlphaGraphics;
  - Muraida (BA, 2014), pursuing a PhD at Stanford after earning a MEd in Environmental Health at Yale;
- J. Wellman (BA, 2013), Economist at Vivid Economics after earning a Master's degree at the London School of Economics;
  - Payne (BA, 2011), Executive Vice President of Brown and Brown Insurance of New Mexico, Inc.

## Criterion 5. Faculty

*The faculty (i.e., continuing, temporary, and affiliated) should have appropriate qualifications and credentials and be suitable to cover the curricular requirements of each degree/certificate program.*

Collectively, the continuing faculty have appropriate qualifications and credentials to cover the curricular requirements of each degree program (BA, MA and PhD in Economics, along with AOP economics minor and major). The faculty is currently well-balanced across ranks, although roughly 35% of current faculty are fully retirement eligible. The total size of our continuing faculty has grown relative to our last APR in 2011; however, we remain smaller than most PhD-granting economics departments in the US. The faculty composition has altered over the decade with the addition of three undergraduate-teaching-centric Lecturer positions, with a smaller net gain in T/TT faculty lines. As we have been for the last decade, we remain one of the most highly-diverse faculties of any PhD-granting economics department. Relative to the explosive enrollment growth in the period surrounding our last APR in 2011, we have seen significant enrollment declines over last four to five years, and thus our student-to-faculty ratios (for both undergraduate and graduate students) and SCH-to-faculty ratios have declined (improved). Further, the number of economics courses per continuing faculty FTE has increased. Altogether, this has greatly mitigated a number of past faculty teaching resource issues noted in the last APR (concerning use of PTI's and large-section principles class sizes). These recent trends bode well generally for student success (e.g., lower average class sizes, and increased per-student access to faculty FTE). One concern is that annual external grant support for RAs per T/TT faculty FTE has declined relative to where we stood at the 2011 APR, which is generating significant challenges for funding our PhD students over the duration of their time in the Department. Also, of note is that total SCHs generated by the Department have declined roughly 40% in total over last 5 years (concentrated in our general education courses, and consistent with the UNM Main Campus overall loss of market share in general education, as spurred by various changes in state rules). Nevertheless, under a conservative set of assumptions, counting revenue from only undergraduate tuition (not fees) and ignoring any external grant revenue generated, the Department continuing faculty as a collective unit, remain a net revenue generator for the UNM campus. This conclusion held even in 2020-2021 AY, with Covid-19 Pandemic disruptions. For the 3-year period 2018-2021 there was just less than \$3 million in net revenue generation, under a typical RCM-style revenue and cost attribution approach.

**5A: Composition** *After completing the Faculty Credentials Template (Appendix D), discuss the composition of the faculty and their credentials (i.e. proportion of senior versus junior faculty, proportion of women and underrepresented faculty, etc.). Provide a link to the faculty vitae.*

Table 5.1 lists all continuing faculty members with appointments in the Department of Economics, along with their current rank and appointment, year and institution of their PhD, and their specialty areas for research focus. For further information see Appendix D.

Table 5.1. Current Department of Economics Faculty, 2021-2022 AY

<b>Name</b>	<b>Rank and Appointment</b>	<b>PhD Institution and Year</b>	<b>Year Joined UNM</b>	<b>Specialty Areas</b>
Robert Berrens	Regents Professor	PhD 1993 Oregon State University	1994	Environmental, Non-market Valuation, Institutional, Water Resources
Melissa Binder	Associate Professor, & Director MPP	PhD 1995 Columbia University	1995	Labor economics, Latin American economics
Alok Bohara	Professor & Director NSC	PhD 1986 University of Colorado, Boulder	1987	Econometrics, Environmental Development Sustainability, Global Health Field Survey Research, GIS and Data Analysis
Janie Chermak	Professor and Chair	PhD 1991 Colorado School of Mines	1995	Natural Resource Economics, dynamic optimization applied to resources economics; energy, Water, consumer preferences
Claudia Diaz Fuentes	Senior Lecturer III	PhD 2012 Pardee RAND Graduate School	2012	Health Economics
David Dixon	Senior Lecturer III	PhD 2011 University of New Mexico	2013	Natural Resource Economics, Computational Economics
Matias Fontenla	Professor	PhD 2003 University of Texas, Austin	2005	International Finance, Financial Intermediation, Monetary Economics, Growth and Development
Philip Ganderton	Professor & Sr. Associate Dean CAS	PhD 1989 University of California, Santa Barbara	1989	Public Finance, Labor Economics, Environmental Economics
Andrew Goodkind	Assistant Professor	PhD 2014 University of Minnesota	2017	Economics of Natural Resource and Environmental Policy
Brady Horn	Associate Professor & Associate Chair	PhD 2009 Washington State University	2009	Risky Health Behavior, Substance Use Disorders, and Crime
Benjamin Jones	Assistant Professor	PhD 2015 University of New Mexico	2017	Applied Microeconomics, Environmental Economics, Environment and Natural Resource Modeling, Mathematics for Economics
Xiaoxue Li	Assistant Professor	PhD 2015 Syracuse University	2015	Public Economics, Labor Economics, Health Economics
Richard Santos	Professor	PhD 1977 Michigan State University	1989	Labor Economics, Health Economics, Hispanic Employment
Cristina Reiser	Senior Lecturer III	PhD 2012 University of Tennessee	2012	Environmental Economics, Industrial Organization
Sarah Stith	Assistant Professor	PhD 2013 University of Michigan	2012	Applied Microeconomics, Health Economics and Law and Economics
David van der Goes	Associate Professor	PhD 2010 Lehigh University	2012	Health Economics, Applied Microeconomics and Econometrics
Kira Villa	Associate Professor	PhD 2014 Cornell University	2014	Development Economics, Health Economics, Nutrition Economics
Jingjing Wang	Assistant Professor	PhD 2012 University of California Riverside	2012	Environmental and Natural Resource Economics, Agricultural Economics, Water Resource Economics, Integrated modeling, dynamic optimal control
Xiaoyang Wang	Assistant Professor	PhD 2014 University of Illinois	2019	Resource commodity markets, Applied econometric methods, Economic modelling
Yuting Yang	Assistant Professor	PhD 2020 Toulouse School of Economics	2021	Environmental Economics, Energy Economics, Public Economics

For AY 2021-2022, the Department's faculty composition is relatively balanced, and includes 17 tenured or tenure track (T/TT) faculty: six tenured professors (Berrens, Bohara, Chermak,



Fontenla, Ganderton, and Santos), five tenured associate professors (Binder, Horn, Stith, van der Goes, Villa), six tenure-track assistant professors (Goodkind, Jones, Li, J. Wang, X. Wang, and Yang). There are also three non-tenure track, faculty members with continuing appointments, all at the Senior Lecturer III level (Diaz Fuentes, Dixon, and Reiser).<sup>32</sup>

Table 5.2 lists all faculty changes over the last decade (since the last APR in 2011), as well as changes in rank. Over the period there has been a net addition of 5 faculty lines. For perspective, at the last APR, Economics faculty lines were at a historically low since the PhD program began.

Table 5.2: Changes in Continuing Faculty 2011-2021

Name	Year	Rank	Reason for Leaving
<b>Joining (13) and Leaving (7) = Net 6</b>			
Kristine Grimsrud	2012	Associate Professor	<b>Resigned</b> to accept govt. sector position in Norway
Cristina Reiser	2012	Lecturer III	Hired
Claudia Diaz Fuentes	2012	Lecturer III	Hired
David van der Goes	2012	Assistant Professor	Hired
Shana McDermott	2012	Assistant Professor	Hired
Jingjing Wang	2012	Assistant Professor	Hired
Sarah Stith	2013	Assistant Professor	Hired
Margaret Blume-Kohout	2013	Assistant Professor	<b>Resigned</b> prior to tenure and promotion decision
David Brookshire	2014	Distinguished Professor	<b>Retired</b>
Kira Villa	2014	Assistant Professor	Hired
Xiaoxue Li	2015	Assistant Professor	Hired
Shana McDermott	2016	Assistant Professor	<b>Resigned</b> - accepted position at Trinity University (TX)
David Dixon	2017	Lecturer III	Hired (transition from temporary Visiting Lecturer)
Benjamin Jones	2017	Assistant Professor	Hired
Andrew Goodkind	2017	Assistant Professor	Hired
Jennifer Thacher	2018	Professor	<b>Resigned</b> to pursue entrepreneurial career
Christine Sauer	2019	Professor	<b>Retired</b>
Katherine Krause	2019	Professor	<b>Retired</b>
Xiaoyang Wang	2019	Assistant Professor	Hired
<i>Robert Valdez*</i>	2020	<i>Professor (primary appt was in HSC)</i>	<i>Retired (*line was not in the department) and not counted herein</i>
Yuting Yang	2021	Assistant Professor	Hired
<b>Change in Status (9)</b>			
Brady Horn	2016	Associate Professor	Tenure and promotion
Jennifer Thacher	2018	Professor	Promotion
Cristina Reiser	2018	Senior Lecturer III	Promotion
Claudia Diaz Fuentes	2019	Senior Lecturer III	Promotion
David Dixon	2019	Senior Lecturer III	Promotion
David van der Goes	2019	Associate Professor	Tenure and promotion
Matias Fontenla	2020	Professor	Promotion
Kira Villa	2020	Associate Professor	Tenure and promotion
Sarah Stith	2021	Associate Professor	Tenure and promotion

As shown in table 5.2, the department has gained a net of six faculty lines since the last APR. Half of these added lines were lecturer positions (zero previously). This was consistent with a broader trend in CAS (beginning in 2021 under former Dean Peceny), to respond to rapidly growing enrollments in the 2010-2012 period at UNM, to both add T/TT lines and also reduce

<sup>32</sup> In 2021-2022 AY, five faculty members are undergoing milestone reviews: B. Horn for promotion to professor; B. Jones, X. Li and J. Wang for tenure and promotion to associate professor; and X. Wang for mid-probationary review at the assistant professor level.

reliance on part-time instruction and increase the number of career track, teaching-centric lecturer lines. It also coincided with then available revenue-sharing on the increased use of online teaching.

For perspective, we currently have 17 T/TT faculty (16 with salary lines in the department). At the last APR (2011) we had 14 (13 with salary lines in the department). We were at a relatively low point at the last APR, as noted in our 2011 Self-Study Report (p. 22).

*“Historically, the number of Economics T/TT Faculty at UNM appeared to reach its peak in the early to mid-1980’s at 24...[with no women professors] ...By the early 1990s, the count of FTE tenure-stream faculty was in the high teens (e.g., 18 in 1994). Then since the last graduate review in 2000, the count has been in the low to mid-teens (i.e., 14-16 range and lower in FTE [11-14]).”*

Thus, at the juncture of the 2011 APR, the long-term trend over the prior 25+ years in the department had been one of a general decline in regular, continuing faculty. Over the last decade, this has been reversed with the growth of three T/TT lines and three lecturer lines. While we currently have a nice balance in our faculty composition, relative to expected career arcs, six of the 20 continuing faculty are fully retirement eligible; the timing of that choice is up to them, but it does leave the department with potential uncertainty in the decade ahead. For perspective, 13 faculty were hired since the last APR (including two spousal accommodations), and 12 of those remain on the present faculty.

Of the current set of 20 continuing faculty members, nine are female and 11 are male (six are non-Hispanic white males); 15 of the 20 would identify as members of under-represented groups. Over a number of years since the last review (2011), we were a majority female faculty.<sup>33</sup> Our average percentage of female faculty members over the decade 2011-2021 has been 51%.<sup>34</sup> Women have also held important leadership positions, including now retired Professor K. Krause who served as the Dean of University College and of Honors College, Professor C. Sauer, who served as the Director of the International Studies Institute, current Department Chair, J. Chermak (returning to the role this year after a prior term, 2012-2016), and M. Binder is the Director of the MPP. In addition, of the 13 new hires since the last APR, nine are female.

While faculty diversity and inclusivity are efforts in which we must continuously invest, the department’s track record is certainly that of one of the most-diverse PhD-granting economics departments anywhere. The department is 45% female, compared to 24.9% across all PhD granting institution in the U.S., similarly 30% of the faculty are minority, compared to 6% across all PhD granting institution in the U.S.<sup>35</sup>

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<sup>33</sup> We had three tenured female faculty (all professors) leave in 2018 including two retirements and one leaving for the private sector.

<sup>34</sup> For the period 2011-2012 to 2021-2022 inclusive (11 years) there have been a total of 208 continuing economics faculty years and 107 were held by female faculty members; this calculation includes all those with primary faculty appointments in Economics and whose salary lines were on the Main Campus (thus counting faculty holding administrative positions (i.e., P. Ganderton and K. Krause).

<sup>35</sup> From The 2020 Report of the Committee on the Status of Women in the Economics Profession and from the 2020 Report of the Committee of the Status of Minority Groups in the Economics Profession. Both are available at <https://www.aeaweb.org/> (last accessed 08/14/2021).

All 20 of these faculty members hold PhD's in economics or closely related fields, with their PhD dates ranging from 1977 to 2020. Of these 20, the salary line for P. Ganderton is solely in the College of Arts and Sciences (CAS), where it has been for the last 14 years, where he currently serves as the Senior Associate Dean. M. Binder is also on a half-time appointment as the Director of the Master in Public Policy Program (MPP). Ganderton has previously regularly taught an undergraduate Personal Investing course (ECON 2130), but no longer. Binder's teaching load in economics has also been reduced with her MPP appointment. Thus, effectively the departmental faculty is at the 18.5 level in AY 2020-2021 (15/18.5 as T/TT lines, and 3/18.5 as lecturer lines).

These 18.5 faculty lines represent the foundation for providing the BA (majors, 2<sup>nd</sup> majors, and minors, including AOP), MA and PhD degrees in economics at UNM, as well as the Economics major and minor in the UNM AOP program. All graduate-level courses for the Master's and PhD degrees are taught by these continuing faculty. At the undergraduate level, in addition to these faculty lines, eligible PhD students (those holding a Master's degree and completing a one-credit UNM teaching course) selectively teach courses as well. This has averaged in the range of five to seven courses per semester.<sup>36 37</sup>

Finally, the faculty also includes two temporary appointments, both of whom make important contributions to the Department. Neither temporary assignments hold any voting rights on the faculty, nor have any salary line in the Department of Economics. J. Fleck holds an appointment as Professor of Practice (Water Policy and Governance), and is the outgoing director of the interdisciplinary Water Resources Program at UNM. R. Bernknopf (PhD) holds an appointment as a Research Professor, which is annually renewable, and manages several grants that hire Economics PhD students through SILPE, a departmental level center.

**5B: Course-Load** *Explain the process that determines and assigns faculty course-load (i.e., how many courses do faculty teach per semester, how does the unit determine faculty assignment to lower division vs. upper division courses, etc.). Describe the faculty-to-student and faculty-to-course ratio, and any impacts this has on unit success.*

Faculty workloads in teaching, research and service are currently governed by minimum unit loads in all areas under the UNM Faculty Handbook, which for a standard T/TT faculty member translates to a 9/23rds, 9/23rds 5/23rds (or roughly 40/40/20) split between Research/Teaching/Service. Consistent with that, since the early 1990s T/TT faculty in the Department of Economics have held a 2+2 teaching load (two classroom courses in each of Fall and Spring semesters). For all recent faculty hires (e.g., post 2011) this has been set out in hiring offer letters. This teaching load comes with expectation of an active research program (meets "effectiveness" criterion). Base lecturer positions are teaching-centric positions that come with a

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<sup>36</sup> PHD students are reviewed twice annually by the Graduate Committee and ranked for available teaching slots. The Department Chair then has final responsibility for all teaching assignments. With some rare exceptions, these teaching slots are for micro-principles and macro-principles sections. Working with the Graduate Director, one qualified PhD student is also assigned to teach the ECON 595 ("math bootcamp") class held for incoming PhD students, in the weeks prior to the start of the fall semester. Each PhD student who teaches a class as instructor of record is assigned a teaching mentor from the continuing economics faculty, who works with the PhD student throughout the experience.

<sup>37</sup> Over the past 4-5 years the Department has not used any part-time instructors (PTI) who were not PhD students in the Department. Although historically various retired faculty members have taught (e.g., Professor Emeritus Ron Cummings, who passed away in 2020, Professor Emeritus David Hamilton who passed away in 2017, or others (e.g., PhD economists at the UNM Bureau of Business and Economics Research [BBER]). This is a reflection of several factors: declining need with declining student enrollments; the declining CAS PTI budget; and a desire to direct available funding to our PhD students.

4+4 teaching load (or 0/80/20 split with Research/Teaching/Service). However, this may be modified in an offer letter to have a higher research expectation. We have one case in the department of a lecturer (Diaz Fuentes) with a 3+3 teaching load, which converts to 20/60/20 split between Research/Teaching/Service.

In any given semester and academic year, available teaching resources are allocated by the chair to meet degree program demands (required courses for majors, general education commitments [ECON 2110 and ECON 2120], upper division undergraduate topics courses, AOP commitments, required PhD core classes, and field classes). These teaching resources are constrained by faculty contracts and workloads (described above), as well as additional teaching funds provided by CAS (or occasionally an alternative source). The chair then provides a draft schedule, to begin booking available rooms, within the UNM Scheduling time frame in the months prior to any given semester. As often there is uncertainty both around final enrollments and available funding, adjustments may be made even into the final month prior to the start of a semester.

Economics faculty may have reductions in their base teaching loads for a number of reasons, consistent with UNM Faculty Handbook. These reasons include: administrative appointments, approved sabbaticals, research semesters to TT faculty, and course buyouts for external research grants (consistent with current College of CAS guidelines on availability and rates by rank). Practice in the College of CAS has been for the Department to receive funds to compensate hiring Part-Time Instructors (PTIs) to replace some of these the reductions in faculty teaching loads, but not for all (e.g., for administrative appointments but not for sabbaticals). Where received, these PTI funds have been used in practice to hire Economics PhD students to cover faculty teaching reductions (typically sections of principles courses, ECON 2110 and 2120). After accounting for assigned faculty teaching loads, and any provided PTI funds, this provides the base of courses in a semester. This might possibly be increased by use of Department funds in select case to add an additional section, given enrollments in other sections. An example might be the use of AOP funds collected by Department to hire a PhD student to cover an additional ONL section of a principles. While this can vary from semester to semester, in recent years, this adds up to roughly 40 classes that can be offered (each Fall and Spring semester), which then have to be assigned by the chair to meet degree (BA, MA and PhD) needs, and AOP, as matched with faculty teaching fields, capabilities and preferences.

The standing practice in the department, as also described in the P&T document, is for all T/TT faculty, and lecturers to have at any one time at least five courses in the Economics curriculum that they are willing and able to teach if assigned by the chair. This is typically requested twice annually. Further, the practice has been that at least one of the five courses will be a general education principles course (ECON 2110 (Macro) or Econ 2120 (Micro)). New hires are provided three to five years to build-up this minimum teaching portfolio. But, in practice, the majority of faculty will have a larger portfolio (greater than five).

In making teaching assignments, the recent practice has been for the chair to consider the following factors in making teaching assignments:

- (i) Review of the last five years of teaching assignments – by faculty and by course (required and elective by graduate and undergraduate)
- (ii) Ranked lists of individual faculty members’ preferences over the five courses they are willing and able to teach in the upcoming semester (including at least one principles course)
- (iii) Requested input from each of the three PhD graduate fields (set of faculty members) on their group recommendation for PhD field course
- (iv) Requested input from the undergraduate director
- (v) Requested input from the graduate director
- (vi) Requested input from the DA
- (vii) List of any economics courses on the “sunset list” from Scheduling
- (viii) AOP carousel (e.g., our commitment to deliver particular undergraduate courses [required and elective])
- (ix) Available teaching supply, given PTI funding, leaves, research semesters, sabbaticals, administrative appointments, etc.
- (x) Enrollment trends over last several years for all economics courses, graduate and undergraduate, by level
- (xi) Any external teaching commitments (e.g., BA/MD, MPP, WRP, with any x-listings)
- (xii) Any faculty preferences/restrictions with respect to teaching availability (time of day, days of week, family or medical issues)
- (xiii) Construction of the teaching portfolios of junior faculty
- (xiv) Expected room availabilities for classes (e.g., space constraints for metrics courses etc.)

The department chair then solves this general equilibrium problem. This process has been, to a large extent, a practice of necessity due to a faculty that was historically too small to adequately offer the courses listed. And while it has been adequate, there are difficulties associated with the practice. First, this does not result in multi-year schedules, making it difficult for students to plan. Second, faculty tend to rank the same classes highest, at the undergraduate level, a group of courses that are taught often and other courses that are taught infrequently, resulting in an uneven offerings of courses. Further, in many courses (at both the undergraduate and graduate level) there is single coverage, meaning that there is only one faculty member who teaches a specific course.

We turn now to looking at various X-to-faculty FTE ratios. As useful benchmark year for our program, we can especially look at the 2018-2019 AY; this is the last full year of record prior to any Covid-19/pandemic disruptions.

In 2018-2019 AY, the department had 19.5 continuing faculty lines (with a mid-year retirement), of these three were lecturers and 16.5 were T/TT. And one of the T/TT had their salary line completely in CAS (for administrative appointment). We will treat this as 18.5 FTE faculty lines overall and 15.5 FTE T/TT lines for working with graduate students.

In 2018-2019, there were 50 graduate students in the department. Additionally, for undergraduates, there were 87 1<sup>st</sup> majors, 22 2<sup>nd</sup> majors and 59 pre-majors, for a 168 total. For the 2018-2019 AY, there were 10,088 SCH generated (F + SP + SU) in Economics.

In summary, there were:

- (i) 545.3 SCH per faculty FTE
- (ii) 5.89 UG majors and 3.19 pre-majors per faculty FTE
- (iii) 3.22 Graduate students per T/TT FTE (almost entirely PhD students)

All these ratios [(i) to (iii)] per respective faculty FTE are smaller than we observed at the last APR in 2011. As a general inference, all this bodes well for student success, where we have seen much smaller class sizes in undergraduate courses, and especially principles courses (ECON 2110 and ECON 2120) and greater access to T/TT faculty FTE per graduate student.

However, a key consideration for PhD-level graduate student success is the ability to provide funding. For example, in terms of research expenditures in 2018-2019 AY, there was \$193,147 of external grant expenditures run through the department. This equates to:

- (iv) \$12,461 per T/TT FTE (includes only those administered through the department).

For context, much if not most of our external grant activity was not managed and administered through the department. Some faculty participate regularly in a wide variety of interdisciplinary grants administered outside the department and CAS. Increasing such participation was a recommendation of the 2011 APR review team. For example, in 2018-2019 faculty participated in grants such as the CREST grant (UNM engineering), the NSF-EPSCoR grant (separately administered) and a number run through UNM Health Sciences Center (HSC). These numbers are harder to track, but would be roughly the same magnitude as those run through the department. This would equate to roughly \$25K of grant support per T/TT FTE (with high variability across faculty) in 2018-2019 AY (or less than \$400K). With this grant funding, we had approximately 28, 10hr (0.25 FTE) semester RA lines supported in 2018-2019 AY (F+SP, excluding summer), equating to seven full 20hr (0.50 FTE) annual RA lines with stipends of approximately \$14,000 each (excluding tuition and fees, health insurance support, fringe, and overhead return). Thus, in 2018-2019 AY we had, roughly:

- (v) 0.25 FTE (10hr) annual external RA support generated per T/TT FTE

For further context, this means collectively the Economics faculty research grants have recently only been funding *one* of the typically five plus years of timeline in each average cohort of PhD students we bring in. This figure from 2018-2019 is similar to the average support in the years immediately prior, and is: (i) significantly below (less than half) of the average for the 2011 APR and (ii) too small to sustain the current size of our current PhD program, without increased or alternative support.

Table 5.3 presents the number of economics classroom (F2F, remote or ONL) courses provided in each of the last six semesters (Fall and Spring only). This number does NOT include independent study credits, honors readings, thesis credits or dissertation credits, which are all annually delivered by the faculty. It also does not include summer session courses provided by

the faculty. This comprises the Economics curriculum, both undergraduate and graduate, supporting the, general education courses, and BA, MA, PhD degrees in economics. It also includes the AOP courses, but treats these as single courses (as they are stacked with a regular ONL section). We only include courses taught by members of the Economics Department (including x-listed courses in Masters in Public Policy (MPP), Water Resources Program (WRP), and Health and Human Values (HMHV) for the BA/MD program). These are either courses taught by Economics faculty members or Economics PhD using a variety of funding sources generated by the Economics faculty (e.g., WRP participation, MPP administrative roles, Honors funds, MOP funds, external grant research buyouts, etc.). That is, these are either courses faculty teach or are responsible for generating the funding for.

Table 5.3 Number of courses offered and Continuing Faculty FTE

Semester	# of Econ Courses (total)	Continuing Faculty (FTE)**	Ratio of annual Courses per Continuing Faculty FTE	SCH generated	Ratio of annual SCH (F+Sp) per Continuing Faculty FTE
Fall 2018	39*+2 MPPxlist + 1 WRPxlist + 2 intersession = <b>44</b>	19		5244	
Spring 2019	39* + 2 MPPxlist + 1 HMHVxlist = <b>42</b>	19		4484	
	<b>18-19 AY total = 86</b>	Average=19	4.52		512
Fall 2019	41 + 2 MPPxlist + 1 WRPxlist + 2 intersession = <b>46</b>	17		4367	
Spring 2020	42 + 2 MPPxlist + 1 HMHVxlist = <b>45</b>	17		4108	
	<b>19-20 AY total =91</b>	Average =17	5.35		498.5
Fall 2020	39 + 2 MPPxlist + 1 WRPxlist + 1 intersession = <b>44</b>	18		3590	
Spring 2021	39 + 2 MPPxlist + 1 HMHVxlist = <b>42</b>	18		3348	
	<b>20-21 AY total = 86</b>	Average =18	4.77		385.4

Notes: \* treats the ECON Success course (2110 or 2120) with multiple sections (e.g., 5 or 6) as a single course. \*\* counts faculty FTE as all continuing faculty with salary lines in Department of Economics.

As seen in table 5.3, the overall annual average 2018-2021 AY was:

- (vi) 4.77 courses per continuing economics faculty line.

Most T/TT faculty have 2+2 (Fall + Spring) teaching loads, or four courses per year. However, the effective average for T/TT faculty is lowered by courses releases (chair (2), UG director, graduate director (1), sabbaticals, and as of 2021, associate chair (1)) that are not otherwise replaced. However, the lecturers have higher teaching workloads (either 3+3 [1] or 4+4 [2]), which in the net raises the department average to 4.77 courses annually per continuing faculty FTE. This average would be higher than in the past, (less than four based on the Department's

allocated base salaries),<sup>38</sup> as it reflects the introduction of the three continuing lecturer positions into the faculty since the last APR (2011). Generally, this might be interpreted as promoting student success; it reflects a movement in the department away from the use of non-departmental part-time instructors (PTIs) and increased annual courses per continuing economics faculty member annually.

For further perspective, in the 2018-2019 AY, the last full year prior to any Covid-19 pandemic disruptions, we had 10,088 SCH generated (Fall + Spring + Summer). Eliminating roughly 288 SCH for theses, dissertations, independent studies, etc., this equates to approximately 9800 SCH/3 /86 courses = 38 students per courses. This annual average of students per course reflects the combined average of graduate courses (6-15 students per course), upper division undergraduate (15-40 students per course) and lower division undergraduate (20-80 students per course). It also reflects the trend in the department (post 22018) away from offering large section principles (ECON 2110 and ECON 2120) sections (e.g., with 100-270 students per section), as enrollments have dropped.<sup>39</sup> Generally, this would also be interpreted as being positively related to student success (moving away from large section general education course sections). However, more broadly it has upended the historical business model for UNM and many public flagships, where large-section enrollments general education courses (including economics) have been significant sources of cross-subsidization to the rest of the University.

**5C: Professional Development** *Describe the professional development activities for faculty within the unit, including how these activities are used to sustain research-related agendas, quality teaching, and students' academic/professional development at the undergraduate and graduate level. Describe what measures the department takes to ensure appropriate support, mentoring, workload and outcomes for faculty of color and members of groups that are traditionally under-represented in your field.*

The departmental chair works with all incoming faculty members to convey expectations for promotion and tenure, workload, etc. These interactions can happen throughout the year. More specifically, in the first year at UNM, the practice has been for the chair to provide and review the Rules of Governance, and the Mentoring, Promotion and Tenure Policies and Practices, documents (Appendix A), and answer any questions about these or the *UNM Faculty Handbook*.

Additionally, there is a required annual review process for all faculty members that is conducted by the department chair, which includes a written record and any recommendations for the individual concerning building their research, teaching and service programs. In early Spring

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<sup>38</sup> In prior time periods, e.g., during significant enrollment growth (2009-2013), this would have been commonly handled with allocation of PTI funds from CAS (in addition to the base salary allocation to the Department). Historically, these would have included instructors known but outside of the Department (non-faculty or non-PhD students). Essentially, with our drop in enrollment over the last 5 years and prior hiring of continuing Lecturers, we have eliminated use of non-departmental PTI, and increased our courses-per-faculty-FTE ratio (with a concomitant decrease in average class size)

<sup>39</sup> In economics, enrollment drops have predominated in our general education offerings (Principles of Micro [ECON 2120] and Macro [ECON 2110]). As discussed elsewhere, over the last five to six years this has been driven in the state of NM by a number of factors, outside of NM demographics and net out-migration: (i) the full transferability of all commonly numbered courses at all public institutions; in NM (including CNM and UNM Branches with increased ONL offerings at about 1/3 to 1/4 the price of UNM Main Campus); (ii) the reduction in required SCH from the social science component of general education requirements at UNM; (iii) the state-imposed reduction in total SCH for general education requirements; (iv) the state-imposed decision to re-number economics general education (principles of micro and macro) from 1000-level to 2000-level; and (v) increased trends toward swirling in UG student enrollments, as aided by the greater ease of proportioning of NM Lottery tuition scholarships across multiple public institutions (e.g., CNM+UNM or UNM Main+ UNM Branches).



semester annually, all Economics faculty members must complete: (i) an annual workload spreadsheet, where the Department has established minimum workload points (consistent with guidance in UNM Faculty Handbook) in teaching, research and service; (ii) a set of salary review documents, including an annual summary of activities in teaching, research and service, and an updated CV. The latter set (ii) are then reviewed by the appointed salary committee, which makes annual salary recommendations to the chair (consistent with the department's salary determination process in the ROG). All materials are made available to all faculty members. Further, consistent with the UNM Faculty Handbook, all senior faculty are requested annually to provide confidential written review and recommendations for each junior faculty member (those with further milestone reviews) to the chair. The chair uses these inputs in drafting the annual reviews. The practice has been for the set of these written review and recommendations to be provided, without attribution, as an appendix to the written annual review. Each faculty member has the opportunity to discuss reviews with the Chair, and if they so choose to provide written response or rebuttal to anything in the review. Finally, the cumulative set of annual reviews are important inputs to all milestone reviews.

During their first academic year at UNM, all junior faculty members are asked to select their choice of 1-2 senior faculty members to serve as their mentor. This provides an avenue for the faculty member to receive career advice and coaching on their workloads and research, teaching and service programs in an avenue separate from that of the department chair. This mentor is selected and not appointed. The choice usually happens somewhere late in the first semester, to give the individual some time to get to know their faculty colleagues. An important recommendation and result from the last APR (2011) for the department was to better formalize our faculty mentoring process, which had historically been much more informal (although it was not directly criticized as lacking). The mentoring plan is written into the departmental document, which is provided to all incoming faculty members

All junior faculty members (TT assistant professors, and lecturers) are regularly encouraged -if not quite required – to receive regular peer-reviews of their teaching. Peer reviewers visit or observe (e.g., via ZOOM for online courses) classrooms, review syllabi and other course material, and provide written feedback and often discuss with the individual. These are encouraged to happen at least once per semester of teaching as individuals work towards their milestone reviews. The set of these peer reviews are included in the individual's milestone review dossiers. This practice then continues on until individuals complete all milestone reviews along their career paths.

Over the last decade plus, incoming tenure-track assistant professors have received a research semester as part of their hiring letter. The timing is worked out with the department chair (depending on departmental teaching needs). It can be broken up across two semesters, but it has been the department practice to take as a full semester, and relatively shortly after receiving their mid-probationary review (in year 3). This allows the individual faculty member to use the enhanced direction and feedback they receive in the mid-probationary review to help focus their research semester for successful promotion efforts. During a research semester, the faculty member is relieved of teaching duties, but is otherwise expected to be present at UNM.

CAS introduced the opportunity for research semesters for associate professors several years back, which were not typically provided in hiring letters. The research semesters needed to be applied for, and were discontinued because of budget reasons in 2020.

[UNM ADVANCE](#) is an NSF-funded project to recruit, retain and promote women and minorities in STEM (defined by NSF to include economics). ADVANCE provide a variety of resources, learning workshops, mentoring, and annual support and networking activities. These have included COVID resources, dossier preparation resources, and new faculty information, as examples. There is also seed-grant research funding support, which is competitively applied for. A number of Economics faculty have participated in ADVANCE (providing presentations, receiving seed funding, accessing resources). For example, for 2021-2-22 AY, three Economics faculty (J. Wang, S. Stith and X. Li) are receiving seed grant funding support from ADVANCE.

### 5D: Faculty Budget Perspective

This question can be explored using a typical Responsibility Centered Management (RCM) approach that allocates revenues to a generating unit, and assigns costs (both direct and a proportional share of fixed).

To begin, Table 5.4 examines student credit hour production by semester for the three-year period 2018-2021. It further separates by course level (undergraduate lower division [UGLD], undergraduate upper division [UGUD] and graduate). Finally, Table 5.4 uses the UNM main campus weighted/differentiated tuition rates for each year and generates annual estimates of tuition generated; this is done for undergraduate only, leaving out graduate tuition generated, since over 85% of our graduate students are PhD students on Assistantships).

Table 5.4. Student Credit Hour Production, and Estimated Tuition Revenue Generated

	Fall	Spring	Summer	Totals
<b>2018-2019 AY</b>				
<b>SCH total</b>	5244	4484	360	10,088
<b>SCH breakout (UGLD+UGUD+G)</b>	3579+1188+477	3126+988+370	288+51+21	6993+2227+868
<b>Estimated Tuition Generated (UG only)</b>				<b>\$2,402,718 (UG only)</b>
<b>2019-2020 AY</b>				
<b>SCH total</b>	4367	4108	243	8718
<b>SCH breakout (UGLD-UGUD-G)</b>	2820-1174-373	2733-1029-346	192-42-9	5745-2245-728
<b>Estimated Tuition Generated (UG only)</b>				<b>\$2,255,530 (UG only)</b>
<b>2020-2021 AY</b>				
<b>SCH total</b>	3590	3348	255	7193
<b>SCH breakout (UGLD-UGUD-G)</b>	2232-1012-346	2187-839-322	195-54-6	4614-1905-674
<b>Estimated Tuition Generated (UG only)</b>				<b>\$1,887,301 (UG only)</b>
<b>2018-2021</b>				
<b>SCH total</b>	13,201	11,904	858	25,999
<b>SCH breakout</b>				17,352+6,377+2,270
<b>Est. Tuition Generated (UG only)</b>				<b>\$6,545,549 (UG only)</b>

Notes: (i) UGLD = undergraduate lower division, UGUD = undergraduate upper division, and G = graduate; (ii) Each year includes the Summer semester at the end of each Fall + Spring AY (e.g., Summer 21 for 2020-2021 AY); (iii) SCH numbers from UNM OIA, with exception of Summer 21 (direct counts in Dept.); (iv) Estimated tuition dollars generated is for tuition only and excludes any and all student fees (mandatory or other fees) and includes ONLY undergraduate tuition (e.g., assumes \$0 for graduate as most Economics graduate students are on assistantships); (v) Estimated undergraduate tuition revenue includes per credit cost plus any relevant premium charge and differential charge for the given AY and course level, as taken from: <https://bursar.unm.edu/tuition-and-fees/tuition-and-fee-rates.html>.

Using the above Table 5.4 for generating annual estimates of Tuition revenue (undergraduate only), we can examine our known cost structure and make an estimate of annual net revenue.

### Estimated Revenue Generated

- a. (Undergraduate Tuition generated [Base Tuition at per unit rate + any Premiums + any Differential])<sup>40</sup> +
- b. (Main campus State Instruction and General (I&G) support generated, based on highly conservative assumption that the state funding formula [based on SCH, degrees etc.] revenues – attributable to Economics - is equivalent to Tuition generated).<sup>41</sup>

### Estimated Costs

- c. (Faculty Base Salaries +29% fringe)<sup>42</sup> +
- d. (Staff Salaries +29% fringe)<sup>43</sup> +
- e. (GA funding+ 1% fringe + annual H. insurance on 14.5 lines)<sup>44</sup> +
- f. (Dept. Operating Budget) +
- g. (Typical annual PTI allocation to Dept) +

<sup>40</sup> We exclude any consideration of all student fees, both mandatory fees (e.g., Student Health, IT, Athletics, Student Services) and course- or curriculum-based fees. Fees tend to be based on covering specific costs or programs. We also exclude any inclusion of graduate tuition revenue generated in Economics, since most of our graduate student tend to be on GA/TA/RA assistantships. However, while we exclude any tuition revenues generated (e.g., on external RA's), on the cost side we do include the GA/TA stipends, health insurance, and fringe rate.

<sup>41</sup> For the UNM Main Campus, State I&G (Instruction and General) allocations have always been significantly larger than Tuition revenues. The proportion of UNM Main Campus revenues for Tuition versus State I&G allocations was 38% to 62%, in 2020-2021 fiscal year (Tuition=\$114m, state I&G =\$186m). In fiscal year 2007-2008 it was closer to 30% to 70% (e.g., Tuition was 31% (\$86m) to 69% (State I&G =\$194m). While there has been considerable annual variability, the relative share of revenue generated by tuition has been between 30% to 45% over the last 15 years.

<sup>42</sup> Department of Economics I&G salaries for the 2018-2021 period were taken from CAS salary planner provided to Dept., and calculated as: 2018-2019 \$1,926,425; 2019-2020 \$1,724,514; and 2020-2021: \$1,719,357. These annual amounts do not include Associate Dean P. Ganderton CAS salary line in Economics, and also assume only 50% of M. Binder's (MPP Director) salary line is allocated to Economics; Finally, 2020-2021 includes voluntary temporary reductions to two Economics faculty members during Pandemic (7% each), where they had reductions in teaching loads.

<sup>43</sup> I&G staff salaries account for all encumbrances for staff support in Economics (DA, Grad. Program Coordinator, Work-Study), as well as one-half of the CAS line for the Undergraduate Academic Advisor (shared with another Department). As a conservative assumption (i.e., raising our costs), this assumes all of the staff salaries are allocated on the cost side to the teaching and service missions of department.

<sup>44</sup> This funding supports roughly 14.5 GA lines at 20 hrs (0.5 FTE) annually (F + Sp), with additional approximate \$2,500 annual student health insurance costs per GA line.

- h. (Administrative SAC's granted to Dept + 29% fringe)<sup>45</sup> +
- i. (5% multiplier on I&G support of CAS to Dept.)<sup>46</sup> +
- j. (\$30 per sq ft space/utilities/security charge X 14,000 sq ft)<sup>47</sup>

Using the above, we can calculate an estimated net revenue for each of the three academic years, as well as for the overall period

2018-2019 AY: **Revenue – Costs = (\$2,402,718 x 2 = \$4,805,436) – [(\$1,926,425 X 1.29) + (\$92,975 X 1.29) + ((\$232,278 X 1.01) + (\$36,500)) + (\$32,072) + (\$25,000) + (\$33,500 X 1.029) + (\$121,475) + (\$420,000)] = \$4,805,436 - \$3,636,054 = \$1,169,382** net revenue generated in 2018-2019, excluding any consideration of fees or graduate tuition or external research grants.

2019-2020 AY: **Revenue – Costs = (\$2,255,530 x 2 = \$4,511,060) – [(\$1,724,514 X 1.29) + (\$91,304 X 1.29) + ((\$232,278 X 1.01) + (\$36,500)) + (\$32,072) + (\$25,000) + (\$33,500 X 1.029) + (\$135,253) + (\$420,000)] = \$4,511,060 - \$3,260,302 = \$1,250,758** net revenue generated in 2019-2020, excluding any consideration of fees, graduate tuition or external research grants.

2020-2021 AY: **Revenue – Costs = (\$1,887,301 x 2 = \$3,774,602) – [(\$1,719,357 X 1.29) + (\$96,759 X 1.29) + ((\$232,278 X 1.01) + (\$36,500)) + (\$32,072) + (\$25,000) + (\$33,500 X 1.029) + (\$121,475) + (\$420,000)] = \$3,774,602 - \$3,260,706 = \$513,896** net revenue generated in 2020-2021, excluding any consideration of fees, graduate tuition, or external research grants.

Total (2018-2021): **Total estimated revenue (13,091,098) – Total estimated costs (\$10,157,062) = estimated net revenue generated of \$2,934,036** excluding any consideration of fees, graduate tuition or external research grants.

The above analysis shows that from a fiscal perspective, and under a set of generally conservative assumptions, the Department of Economics remains a net revenue generator for the

<sup>45</sup> For the 2018-2021 period, the Special Administrative Compensation (SAC) received by the department annually included \$1,750 for the Undergraduate Director position, \$1,750 for the Graduate Director position, and \$15,000 for the departmental chair. Also, the chair received an additional summer month of salary (roughly \$15,000), treated here as a SAC. These add to \$33,500 annually.

<sup>46</sup> In 2018-2019, the administrative costs as a percent of the CAS I&G budget were 3.8% (\$2.5M/\$65.8M) (per Senior Associate Dean P. Ganderton). In addition to receiving the bulk of our administrative support from CAS, there is also administrative support directly and indirectly from Academic Affairs. Thus, we make the conservative assumption (in the sense of raising our costs) of a 5% multiplier on I&G allocations from the College of CAS to Economics.

<sup>47</sup> This is proxied as an annual charge per foot for space utilization and utilities and security, consistent with calculations done in prior Responsibility Centered Management (RCM) modeling done for the UNM main campus (e.g., in 2013). For perspective, rental rates for 10,000+ sq. ft of commercial business space in Central Albuquerque in mid-2021 ran in the \$14 to \$16 range per sq. ft. Taking \$15 per sq. ft, we then assume twice this rate (\$30) to include a utilities and security charge. In determining sq. ft, the Department of Economics Building is 15,700 sq. ft. However, it also houses two additional academic programs (with separate budgets): Water Resources Program (WRP) and Masters in Public Policy (MPP) Program. In combination, they have six offices, a lab, and an enclosed hallway wing. In addition, these programs will also check out and use various Economics-controlled rooms (e.g., 1004, 1015 and 1052), including scheduling courses. We assume WRP+MPP use roughly 10% of the space at 1,700 sq. ft. Subtracting this out leaves 14,000 sq. ft for Economics. The Department of Economics uses other assigned classroom space on campus. Our Economics-controlled classrooms (1004, 1008, 1015, and 1052) can handle most of our assigned classes, with the exception of needing mid-size classrooms in 70 seat range for our general education undergraduate offerings. However, the calculated 14,000 sq. ft for Economics also includes one 70-person lecture room (1002) that is controlled by UNM Scheduling, but often not assigned to Economics classes. Treating this as a net-zero swap, which we would gladly accept. For this calculation, we assume that all the other space we currently use for classes outside of Economics could and would be swapped sole use of 1002.

UNM Main Campus, excluding any consideration of student fees (which are usually for dedicated purposes), graduate tuition, and external research grants (through the department or in interdisciplinary collaborations). Put another way, under a typical RCM-style accounting exercise, which allocates revenues to generating units, and assigns costs (both direct and a proportional share of fixed), we are a net revenue generator for UNM Main Campus. This conclusion holds overall (totaling a bit less than \$3 million overall for the last three years, 2018-2021), and for each year in the period, even in the difficult/disrupted year of AY 2020-2021 when enrollments declined significantly in our department, UNM, the state and nationally.

## Criterion 6. Research, Scholarship, & Service

*The unit should have structures in place to promote active engagement in research, scholarly, and creative works among the faculty and students (if applicable, differentiate for each undergraduate and graduate degree and certificate program).*

**6A: Scholarly & Creative Works** *Describe the scholarly/creative works and accomplishments of the faculty. Explain how these support the quality of the unit; what are particular areas of strength?*

The department's scholarship centers around our three field research areas. While each faculty member has a scholarly program, the overall programs can be described by the following.

The Environmental and Natural Resource Economics (ERE) group focuses on addressing human interactions with natural systems. At UNM, our studies are transdisciplinary, combining, for example, economics with biology, hydrology, chemistry, engineering, and human health. The goal is not only to understand the impact of humans and their economic pursuits on the natural world, but also to provide policymakers with improved information with which to develop management policies that provide economic opportunity, long-term environmental and resource viability, and environmental justice.

The International Development and Sustainability (IDS) group addresses a wide range of issues faced in developing countries and by the people who live in them including the relationship between migration (and return migration) and development in origin countries; the effect of pollution on a range of development and human well-being indicators, the short- and long-term socio-economic effects of environment and natural disasters, and how aspects of human well-being are transmitted across generations, among others.

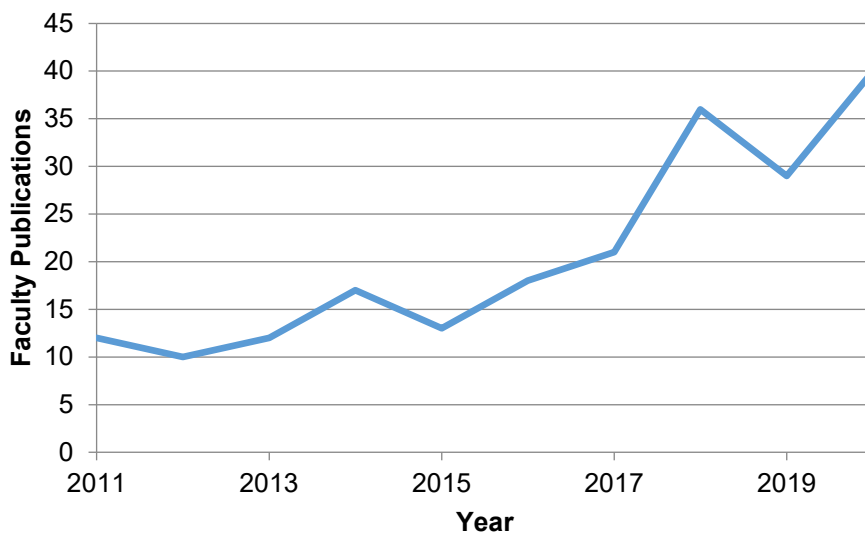
The Public Economics (PE) group addresses research related to firm and consumer behavioral responses to regulation; poverty; race, ethnicity, and gender disparities; substance use disorders; safety net healthcare; and social insurance.

Appendix D provides a list of faculty peer-reviewed journal articles and book chapters for the period 2011- July 2021. These publications represent the last 10 full years since those analyzed in the last APR. The table only counts publications that include one or more Department of Economics faculty members present at UNM during each specific year of the 10-year period. i.e., publications aren't included for current individuals for years before they were a UNM faculty member, or for individuals after they were on the UNM Economics faculty. As shown, there were 224 total publications, with 206 journal articles and 18 book chapters. Many of the publications will have multiple Economics faculty and student co-authors, but each publication is counted only once. 213 out of the 224 publications were by tenured or tenure-track faculty (T/TT) whose salary lines are in the Economics Department, as counted year-by-year. This set of 213 is the basis for looking at any productivity measures.<sup>48</sup>

In addition to these 224 journal articles and book chapters published between 2011- July 2021, there was also one co-edited book (by Distinguished Professor Emeritus D. Brookshire (Brookshire et al., 2012)) and one co-authored book (by Professor of Practice J. Fleck). Additionally, there were numerous other professional publications (technical reports, policy briefs, white papers).

The information provided in the appendix is utilized to provide the not only graph x, which shows faculty publications per year, but also faculty averages. As can be seen by table x, annual publications are on an upward trajectory. Per capita T/TT FTE average annual publications average 1.46 publications per year per faculty member over the last decade. For comparison purposes, this represents an increase over the prior 10-year period (after standardizing for the number of T/TT FTE).<sup>49</sup>

Graph 6.1: Annual Faculty Publications



Specific to quality of articles, as a measure we consider three different common journal rankings; a) RePEc composite index, b) RePEc h-index; and c) SciMago SQR and include any journal that is listed in the top-100 for any of these three rankings. From there we count all journal article publications that appear in this composite top-100 Economics journal (comprising roughly 120 different economics journals). For the 10-year period, 35 out of 208 or 17% were published in journals on this list.<sup>50</sup> About half of the 35 from this top economics journal list were in the general area of environmental, natural resources, ecological, or energy, but there were also publications in top health and public development journals, as well as general interest economic journals.

<sup>49</sup> For comparison purposes from the last APR (2011, pg. 35), there were 177 journal articles and book chapters published in the 11-year period 2000-2010, with an average of 13.36 T/TT faculty FTE lines in the department. This produced an average of 1.20 peer-reviewed publication (authored or co-authored) per T/TT FTE faculty member in the department. Going back further, for the prior APR period (1993-2000), the equivalent per faculty average publication measure was approximately 1.0. So, the quantity of per faculty publications has been slowly increasing over the last two reviews.

<sup>50</sup> For comparison purposes from the last APR (2011, pg. 38), there were 30 out of 177 (journal articles and book chapters) published in the RePEc top-100 list of Economics journals, or roughly 17%.

The above does not capture interdisciplinary publications, which is a focus of the department. The economics faculty does publish in a wide variety of high quality or top ranked interdisciplinary journals, as ranked by various lists and rankings over the 10-year period. Conservatively, there are easily another dozen or two-dozen such high-impact publications. Thus, it is probably a reasonable statement that about 25% of the journal articles published are in relatively prestigious or relatively high-ranking journal outlets. Finally, numerous remaining publications are in professional outlets targeted to specific topical interests or areas (both disciplinary and interdisciplinary).

Taken together, the publication per faculty FTE annual average and the relatively highly ranked percentage of journal articles (about 17% for top-100 “ish” economics journal lists, and closer to 25% when including consideration high impact interdisciplinary journals) provide historical benchmarks for the faculty. Broadly, they are in line with historical expectations.

Considering the ranking of the department, relative to other economics departments, the RePEc ranking for U.S. Economics departments ranks the department 124 of 544, or in the top 25% as of August 2021. This ranking is across all research areas, based on the list of RePEc journals. Utilizing the [Tilburg University Economics Sandbox Ranking](#), which allows rankings based on subsets of the 79 journals included in the Tilburg ranking system, each of the three specialty areas can be ranked at the world, North American, or US level.<sup>51</sup> Table 6.1 provides the rankings for the research areas, for the 2000-2020 time period and the 2015-2020 time period to provide a comparison for each field area for the long run and the most recent five years. In each case, the Tilburg (T) ranking (journals have an equal impact) and the journal impact factor (IF) ranking (where each journal has an individual impact) are included for the two time periods at the world, North American and US level. Because the number of departments change across time that publish in these journals, the percentage rank (%) for each is included as well.

As can be seen from table 6.1, the ERE group is highly ranked (mostly in the top 10%) over the longer time period at all three geographic levels. There has been a slight decline in the ranking levels over the most recent five-year period. This may be attributed to a number of factors, including ERE faculty numbers, administrative duties, an increased interdisciplinary research focus, and the meaning that articles are published elsewhere. Within IDS, the recent period shows a marked improvement in the rankings, as there has been a stronger focus on IDS (while seeing a decline in the number of faculty in the area). PE is relatively stable across the two time periods. Combining all fields with the journals from each field, the department rankings are mostly top 20%. Note that the US Tilburg ranking for the 2015-2020 time period of 23.1% is very similar to the top 25% RePEc ranking.

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<sup>51</sup> Tilburg tracks 79 leading economics journals, allowing a ranking across all journals or a subset of the 79. We include the top journals in each field from the list. For ERE this includes *Journal of Environmental Economics and Management* and *Land Economics*; for PE this includes *Journal of Health, Urban Economics*, and *Journal of Public Economics*; and the IDS this includes *Journal of Development Economics* and *World Development*.



Table 6.1: Departmental Ranking

Field	Geographic Region	2000-2020 Rank (T/IF)	2015-2020 (T/IF)	2000-2020 Rank (T%/IF%)	2015-2020 % (T%/IF%)
ERE	World	34/41	52/46	5.8%/7.0%	13.6%/12.0%
	North America	27/27	37/30	10.6%/10.6%	22.7%/18.4%
	US	25/24	35/27	11.2%/10.8%	24.1%/18.6%
IDS	World	485/428	313/342	55.1%/48.6%	47.1%/51.5%
	North America	179/155	115/126	61.1%/52.9%	51.1%/56.0%
	US	157/135	101/109	60.4%/51.9%	50.0%/54.0%
PE	World	326/292	251/258	41.4%/36.9%	47.9%/49.2%
	North America	137/125	100/108	48.2%/44.0%	52.1%/56.3%
	US	120/110	92/100	47.4%/43.5%	53.5%/58.1%
All Fields	World	185/199	176/172	12.0%/8.4%	17.1%/12.3%
	North America	96/95	80/78	18.8%/13.7%	22.8%/17.2%
	US	85/84	73/70	18.6%/14.0%	23.1%/17.4%

In addition to area publications, individual citations and impact factors provide an assessment of departmental research. Utilizing Google Scholar, table 6.2 provides the total number of citations for each current tenured or tenure track faculty member, average number of cites per paper (papers listed on CV's as of Dec 2020), Google H-Index and I10 index. (Curriculum vitae are in Appendix D.)

Table 6.2: Citations and H-Index

Name	Citations	Papers	Average Cites per Paper	H-Index/I10 Index (Google)*
Berrens, R.	5,142	117	43.9	37/87
Binder, M.	1,881	19	104.5	16/19
Bohara, A	4,928	113	43.6	36/77
Chermak, J	1,034	34	30.4	16/23
Fontenla, M	361	21	17.2	11/14
Goodkind, A	478	13	36.8	11/11
Horn, B	381	23	16.6	10/10
Jones, B.	351	33	10.6	12/17
Li, X	42	14	3.0	4/1
Santos, R	141	16	8.8	--
Stith, S	402	23	17.5	10/10
van der Goes, D	1,224	15	81.6	10/11
Villa, K	164	10	16.4	7/6
Wang, J	161	12	13.4	7/7
Wang, X	140	8	17.5	5/3
Yang, Y	6	2	3.0	--
<i>Departmental</i>	<i>16,609</i>	<i>471</i>	<i>35.0</i>	<i>N.A.</i>

\* Not all faculty choose to have a public Google Scholar profile.

**6B: Research Expenditures** *If applicable, include a summary of the unit's research related expenditures, including international, national, local, and private grants/funding. How is faculty-generated revenue utilized to support the goals of the unit?*

Research expenditures depend on the level of externally or internally funded research activity at any point in time. This support comes from a variety of sources and the level of support varies over time. There are sources that are directly attributed to faculty in the department (i.e., that faculty member is the principal investigator (PI) at the university level), as well as sources where

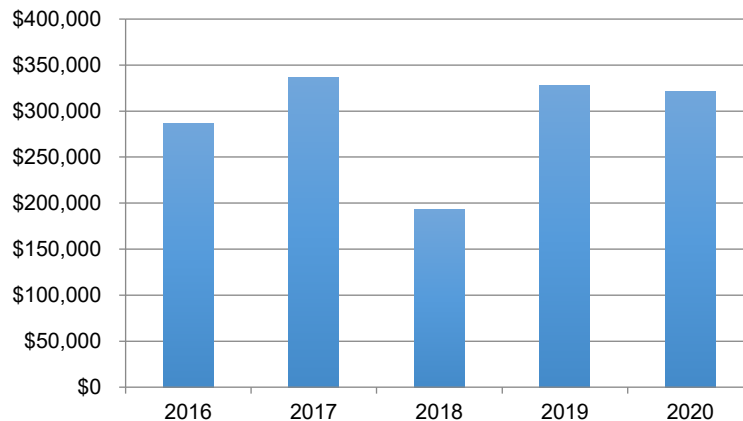
faculty participates as investigators. Table 6.2 presents the total grant dollars from 2011-2021 that are directly attributed to departmental faculty. Active grants dollars are in bold. Because this only includes dollars directly attributable, this is a lower bound on grant dollars attributable to departmental faculty.<sup>52</sup>

Table 6.2: 2011-2021 Faculty Departmental Grant Dollars (active grants in **bold**)

Faculty	Total	Active	Source(s)
Bernknopf	\$40,000	\$40,000	SNL
Bohara	\$72,000	\$0	TX A&M; ACS
Chermak	\$411,100	\$284,100	<b>NSF; WRRRI NMT; LANL</b>
Diaz Fuentes	\$175,100	\$0	NM Sup Ins
Santos	\$120,000	\$0	RWJF
Stiith	\$36,000	\$0	U-Wisc
Thacher	\$19,400	\$0	USFS
van der Goes	\$96,800	\$0	NMDOH; NM Horseman's Association
Wang, J	\$30,000	\$0	WRRRI
<b>TOTAL</b>	<b>\$1,133,010</b>	<b>\$324,100</b>	

Graph 6.2 provides a snapshot of the last five years of the faculty external research expenditures administered through CAS and by the department. Overall, expenditures have increased about 12% from 2016 to 2020.

Graph 6.2: Annual External Research Expenditures<sup>53</sup>



In addition, economics faculty are active as investigators on grants that are not reported in the table above because the grant accounting is managed by other units on campus. Current funding includes the NSF SMART Grid Center through NM EPSCoR<sup>54</sup> (2018 - 2023), NSF CREST through Center for Water and the Environment (2019-2024), and the NIH through Center for Alcohol, Substance Use, and Addiction. Cumulative research expenditures for these projects vary annually. For example, in the case of EPSCoR, annual direct expenditures to the department average \$100,000 per year, while CREST can be as low as \$10,000 and as high as \$35,000.

<sup>52</sup> Information is from Cayuse and departmental records.

<sup>53</sup> Data provided by CAS.

<sup>54</sup> Established Program to Stimulate Competitive Research.

Finally, faculty are funded by internally seed grant sources, including the WeR1 program, [Research Allocations Committee](#) (RAC), ADVANCE, and ASSURE. This funding is directed mainly towards early career faculty.

**6C: Research Involvement** *Give an overview of the unit's involvement with any research labs, organizations, institutes, or other such centers for scholarly/creative endeavors (i.e. formal partnerships with Sandia Labs, CHTM, community organizations, local media, etc.).*

Faculty participate in a number of organizations, institutes, and labs. Included in this are interactions with New Mexico EPSCoR, the Center for Alcohol, Substance Use, and Addictions (CASAA), the UNM Center for Water and the Environment's CREST program, Las Alamos National Laboratories I-WEST program, multiple Sandia National Laboratories research endeavors, as well as the now defunct RWJF funded Center for Health Policy.

NM EPSCoR is a Track I funded NSF center, which facilitates the creation of infrastructure, broadly defined, within states with low federal grant dollars through interdisciplinary and multi-university research endeavors. The Economics Department has participated in the EPSCoR program for the last 15 years working on interdisciplinary research that's focused on water, wildfire, energy, and most recently, renewable energy and community microgrids.

Since 2010, this has provided research opportunities for more than a dozen graduate students. Of those who have completed their degrees, two now have post-doctoral appointments, four are in tenure track positions, two are in private industry, and two are in state government positions. In addition, EPSCoR provided bridge funding for our most recent faculty hire.

#### *Center on Alcohol, Substance Use, and Addictions ([CASAA](#))*

The Center on Alcohol, Substance Use, and Addictions (CASAA) is a multidisciplinary research center at New Mexico with a primary mission of reducing the suffering caused by substance use and other addictive behaviors. This center is funded primarily through NIH and state contracts. The economic department has had faculty associated with CASAA for over 10 years. Economic funding and research with CASAA faculty has included topics such as the economic impact of alcohol use disorder treatment, incarceration-based substance use disorders and treatment, and the treatment of substance use disorders in emergency departments. Economic faculty have submitted numerous grants administered through CASAA and a number of graduate students have been funded through CASAA grants.

#### *UNM [Grand Challenges](#)*

Launched in November 2018, UNM's Grand Challenges seeks to make an impact by addressing problems of global, national and regional significance. The focus is interdisciplinary, providing researchers the opportunity to work across disciplinary. UNM's three Grand Challenges are substance use disorders, successful aging, and sustainable water resources. Economics faculty and students have and are participating in this groundbreaking research.

### *CREST Program*

UNM CREST Center is focused on increasing the participation of underrepresented minorities (URM) in science, technology, engineering and math (STEM) professions while conducting cutting-edge research into technological and engineering-based solutions to problems with water and the environment. Several female graduate students have been funded through CREST, or CREST associated activities.

### *I-WEST*

The overarching objective of I-WEST, established in 2021 is to develop a regional technology roadmap to transition the Intermountain West to a carbon neutral and economically sustainable energy system, and build a regional coalition to implement and deploy the roadmap within the next 15 years.

### *Robert Wood Johnson Foundation*

A large number of faculty were affiliated in the RWJF's Center for Health Policy, which was active at UNM until 2018. The focus of the center was on under-represented populations health issues. Not only did this fund a number of PhD students, but faculty research was also funded through the Center. In addition, the Center was instrumental in providing summer funding and other incentives to many economics faculty hires through 2018. RWJF funding ended in 2018, when RWJF transitioned their monetary support to other policy areas.

### *Transformation Network*

This is a five-year NSF funded endeavor to build research networks to understand and design innovative and equitable solutions that build community resilience. The work will engage communities in the American Intermountain West to collaboratively address the impacts of climate change, including drought, wildfires and community wellbeing.

**6D: Student Opportunities** *Describe the opportunities for undergraduate and graduate students to be involved in research/creative works through curricular and extracurricular activities.*

As mentioned in 6C, the NM EPSCoR is a Track I funded NSF center, which facilitates the creation of infrastructure, broadly defined, within states with low federal grant dollars through interdisciplinary and multi-university research endeavors. The Economics Department has participated in the EPSCoR program for the last 15 years working on interdisciplinary research that's focused on water, wildfire, energy, and most recently, renewable energy and community microgrids.

Since 2010, this has provided research opportunities for more than a dozen graduate students. Of those who have completed their degrees, two now have post-doctoral appointments, four are in tenure track positions, two are in private industry, and two are in state government positions. In addition, EPSCoR provided bridge funding for our most recent faculty hire.

**6E: Community Service** *Describe faculty members' service to the UNM community and beyond (local, national, global). Examples include community engagement practices, volunteering on committees, professional organization membership/leadership, etc.*

The faculty are highly active in service to the university, the local and regional community, and the profession. Because this service is highly varied and each faculty member has a unique focus, instead of developing a table to summarize, we've chosen to have each faculty member provide a summary paragraph of their service.

Robert Berrens (*Regents Professor*)

Robert Berrens has served on, and chaired, a wide variety of committees at the professional, university and departmental level (including numerous policy, hiring and curricular committees). His service record includes: Chair of the UNM Department of Economics (2008-2012 & 2016-2021); Director of the UNM Water Resources Program (2013-2016); Special Assistant to the Dean, UNM College of Arts and Sciences (2012-2014); Associate Editor of *Water Resources Research* (2007-2009); Co-Editor of *Contemporary Economic Policy* (2008-2011); Member of USDA Forest Service's Technical Panel, Collaborative Forest Restoration Program (2007-2013); Editorial Board Member of *Sustainability* (2018-present); and Member of the UNM Budget Leadership Team (2013-present).

Alok Bohara (*Professor*)

I have been at UNM since 1987, and have been involved in developing the econometric program that included revamping of the old curriculum and creating a current sequence Econ 508 (Mathematical Statistics), Econ 509 (Econometric I) and Econ 510 (Econometric II). After making it part of the required sequence, the core examination element was added to it. Ever since, I have been a part of the econometric examination committee (Chair for several years). In addition, I have created an undergraduate senior level time series forecasting course Econ 408. Recently, I have also created a problem-based learning type course (Econ 369\*), where students bridge the gap between the classroom exercises to the field experiments and implementation. In the process, and as a director of the Nepal Study Center, I have designed a study abroad program. After formally creating the International Development and Sustainability field I designed two courses (Econ 581 and Econ 582) and have been teaching them. Over the years, I have served on the Senate, Tenure and Freedom Committee, and various hiring committees as well as several other departmental committees -- salary, governance just to name a few. In response to the former Provost Brian Foster's international initiative in 2004/2005, I began a research center named the Nepal Study Center, with a focus on South Asia. This center has been very active in the areas of field research (in Nepal), conferences, e-portals, and international graduate student recruitments.

Melissa Binder (Associate Professor)

In the last five years or so, I have leveraged my position at UNM to create community engagement programs that harness the analytical firepower of academia in the service of local non-profit and governmental organizations. With support from the Kellogg, Brindle and McCune foundations, I founded the UNM Evaluation Lab in 2015. The Evaluation Lab builds evaluation capacity in community organizations in New Mexico by training graduate students and community members, and by partnering with nonprofit organizations to develop internal evaluation systems. The Lab runs two programs. The first is the partnership program, in which students pursue a 2-semester course in evaluation science and work with a local non-profit on an evaluation project. The second is the Summer Institute and Learning Community, which trains community members in an intensive 1-week workshop over the summer, with monthly follow-up convenings. I currently serve as Associate Director of the Lab. I have also directed the Master of Public Policy since its inception in 2016. In the department, I currently serve on the Undergraduate Committee, and I was on the Salary Committee for a 2-year stint. I have also been a member of the Truman Scholarship Selection Committee since 2018.

Janie Chermak (Professor and Chair)

My service is at the university, local, national and international level. Local, national, and international service includes Member of the Scientific Advisory Board for the Research Council of Norway's program *LandValUse: Integrated welfare assessment of climate and biodiversity impacts of land use: From promise to policy solutions*; the Association of Environmental and Resource Economists Nomination Committee; the Rio Grande Water Fund Advisory Board; member of the Technical Group of the New Mexico, Energy, Minerals and Natural Resource Department Grid Modernization Advisory Group; and member (and former chair) of the Albuquerque Bernalillo Water Utility Authority Technical Customer Advisory Committee. My community service also includes providing interviews and information to news outlets when asked. Recently, this included interviews for Swiss Public Radio, the Arizona Sun, and NM PBS. I previously served as an Associate Editor for *Water Resources Policy* and currently serve as a Topics Editor for *Resources*. I've served on various NSF review panels, as well as on the committee on the economics of helium sponsored by the American Physical Society (APS)'s Panel on Public Affairs, the Materials Research Society, and the review panel for the Economic Sustainability Plan for the Sacramento San-Joaquin Delta (Delta Science Project).

At the university level I served as the chair of the 2021 Water Resources Program Director Search Committee, as a committee member of the Budget Leadership Team, the Governmental Relations Committee, the Faculty Senate Budget Committee; the Faculty Senate Research Policy Committee, and the College of Arts and Sciences' Scholarship Committee and the Senior Promotion Committee. At the departmental level I served as chair from 2011-2015 and am again serving in that position. In addition, I've served as the chair of the graduate committee, and recently as a member of the salary committee and as a member of the personnel committee.

*Claudia Diaz Fuentes (Senior Lecturer III)*

I currently serving in the Undergraduate Committee at the Economics Department, the Committee on Curriculum and Student Progress with the BA/MD program and the Health, Medicine and Human Values subcommittee. Outside my department and the BA/MD program, I also serve in the Faculty Senate Academic and Registration committee, and the Latin American and Iberian Institute grants committee. I am currently a member of the Southwest Hispanic Research Institute (SHRI), in which I serve in the operations committee. I also serve as director of the Evaluation Lab. The Lab harnesses the analytical skills of academia for the service of community organizations in New Mexico through a variety of student and community training programs and collaborative program evaluation projects. The position involves interfacing and creating partnerships with funding agencies and non-profit organizations in New Mexico. Each semester, I manage four to five teams, each comprised of a professional evaluator or Team Lead, two graduate students, and staff from the partner non-profit. Each project results in a capacity-building evaluation project that is shared with the non-profit community at large every April. In addition, the Lab provides annual training to non-profits, all of whom are able to be part of the Lab's ECHO learning community. If non-partner organizations request it, I am available for discussions on their current evaluation issues.

*David Dixon (Senior Lecturer III)*

I am currently serving as co-director of the undergraduate program. I previously served on the undergraduate committee for five years. I served for two years on the Faculty Senate Information Technology Committee and participated in the formal testing and evaluation process for all three of the candidate UNM Learning Management Systems. I have participated in many of the professional development courses and workshops presented by the UNM Center for Teaching Excellence for whom I have also taught workshops on using clickers in the classroom at UNM. I attend New Student Orientation each week over the summer where I meet with incoming students to discuss economics as a major, dual major, or minor, or as part of a 3+2 program. I've also taught economics courses to senior adults in lifelong learning programs in Albuquerque.

*Matias Fontenla (Professor)*

Beyond our university, I serve in the Board of Trustees of New Mexico's Educational Retirement Board (ERB), where we manage 15.8 billion dollars in retirement funds and benefits for all the state's educators. I also serve in the Investments Committee of the American Association of University Professors (AAUP), the institution that since its founding in 1915, shaped higher education by helping implement academic freedom and tenure principles at American universities. In addition, I have been elected to the Executive Council of New Mexico's American Federation of Teachers labor organization.

Within UNM, I have been elected by the general faculty to chair the Committee on Governance, one of the shared governance bodies at our university. I have also been elected as Treasurer of our faculty union, United Academics of UNM. In addition, I chair and serve in several committees within our faculty union, including the Executive Council, and have been a member of the bargaining team that negotiated our first Collective Bargaining Agreement at UNM.

Further at UNM, I have designed and led various projects where service, teaching and scholarship interact. For example, in 2008, I travelled to Argentina with a graduate student to help start a Microfinance organization. We published an academic article out of that experience. However, the most important aspect of that endeavor is that "Grameen Rosario" is still going strong, having provided micro loans to over a thousand underserved men and women. Another example of this is when my students raised funds and built a health center in the Nicaraguan jungle, as part of the study-abroad courses I have led over the years.

Also, at the university level, I have served on various committees to support international education efforts, and mentored several student organizations. I also served as a university Senator for the 2017-2019 term. I was the director of the Latin American Studies program for the 2014-2017 period. There, among other things, I led an effort with Ecuadorian universities to bring students to UNM. Part of the revenues generated by this enterprise was used to fund faculty hires across the university. It created the position in economics that led to the hiring of two junior faculty in Environmental Economics.

As a member of the Economics department, I have rotated through various departmental service assignments since my arrival in 2005. Perhaps noteworthy is that every year since my arrival I have taught in the Macroeconomics sequence, and served on the Core Exams Committee.

*Phil Ganderton (Professor and Senior Associate Dean for Arts and Sciences)*

Service beyond the campus includes:

1. "Economist to the Stars" Occasional appearances 96.3FM Talk Radio
2. Member of NAFE (National Association of Forensic Economics) and AAEFE (American Academy of Economic and Financial Experts).

*Andrew Goodkind (Assistant Professor)*

I have served on several departmental committees at the University of New Mexico and joined the University Faculty Senate as of the Fall of 2021. Within the Economics Department I have served five years on the Microeconomic Exam committee, four years on the Seminar committee (once as the chair), and one year on the Personnel committee. I also served on a departmental committee to develop standards for excellence in research.

*Brady Horn (Associate Professor)*

I am currently a member of the Retirement Plan Investments Committee, which oversees UNMs 403(b) and 457(b) retirement plans, and the UNM Homelessness Research Taskforce, the President's Task Force on Conflict of Commitment and Outside Employment, and the CASAA Director Search Committee. I am a legislatively appointed member of the New Mexico Sentencing commission, which is designed to improve the criminal justice system in New Mexico. Additionally, I provide considerable service to the field of economics. I actively organize sessions and presents at economic conferences and have reviewed for 38 different academic journals.



Benjamin Jones (*Assistant Professor*)

Department: Co-Director of Graduate Program (2021-2022 AY), Graduate Committee Member (since 2017), Core Examination Committee Member (August 2017-October 2019), Seminar Committee Member (2018-2019 AY), Faculty Search Committee Member (2019-2020 AY).

Professional: AERE Scholars Program Mentor (2021-2022), AEA Committee on the Status of LGBTQ+ Individuals in the Economics Profession Faculty Mentor (2020-present); Editorial Council for the *Journal of Environmental Economics and Management* (2021-2025); done over 50 peer-review referee reports in various economics and interdisciplinary journals since 2017; US EPA grant review panel (2021); done over 15 national and local expert media interviews (print and on-air) on my research since 2018.

Community: Central New Mexico STEM Research Challenge science fair volunteer judge (2021).

Xiaoxue Li (*Assistant Professor*)

I have an active service role to the profession and the department, as well. I am an active member of several professional organizations and have served as a session organizer, chair, or discussant at various academic conferences. I have actively contributed to the profession through reviewing for journals and conferences. Within the department, I have served on five departmental committees as the committee chair or committee member: the undergraduate committee, the seminar committee, the core exam committee, the personnel committee, and the hiring committee (2019-2020). In addition to the standard committee work, I also actively participate in departmental undergraduate and graduate assessment workshops and recruiting events during freshman orientation.

Cristina Resier (*Senior Lecturer III*)

My principal service is to our undergraduate students. Over the past five years, I have served on the Undergraduate Committee, Excellence in Teaching Committee, am the Undergraduate Assessment Coordinator for the Economics Department and mentor graduate student instructors every year. Broadly speaking, the purpose of these roles is to improve the quality of economics education to our undergraduate students. In addition, I have represented the department on the New Mexico Higher Education Department's Common Course Numbering Economics Steering Committee, which was created to improve the transfer of economics courses for students at all New Mexico public and tribal higher education institutions. I have also helped expand our program to reach non-traditional students by serving on the Accelerated Online Program Committee and developing five approved, online courses for our online minor. Similarly, I am a devoted peer reviewer to other online courses taught at the university, having peer reviewed 25 undergraduate and graduate courses across all departments and programs since 2017. My experience with online afforded me the opportunity to provide support to several faculty colleagues transitioning to fully online teaching during the COVID-19 pandemic. Support included meetings, creation of online teaching guides, and revision of my courses into sixteen-

week versions for faculty use. Finally, I recently became Departmental Champion for the Student Experience Project (SEP). The SEP program aims to decrease equity gaps for structurally disadvantaged student groups through research-based interventions. As a departmental champion, my charge is to educate our faculty about existing equity gaps and work with faculty to create an inclusive learning environment for our students.

*Richard Santos (Professor)*

Professor Santos chaired the department's undergraduate committee, serves as the local chapter faculty advisor to the national economics honorary society (Omicron Delta Epsilon) and chaired a faculty search committee. At the university level, he serves on the college curriculum committee, college scholarship committee and the Combined BAMD faculty committee. He served on the senior promotion and tenure review committee of faculty in three other departments, an internal academic program reviewer for the math and statistics department, and served on faculty hiring search committees. He is a founding member of the American Society of Hispanic Economists. He has organized and chaired session for the International Association of Applied Demographers (2019), Freedom and Justice Conference sponsored by the American Society of Hispanic Economists and National Economics Association (2019). In 2016, he was served as a Panel Judge, MacArthur 100&Change Project. He is a former faculty mentor with the Diversity Initiative for Tenure in Economics (DITE) funded by the National Science Foundation and Duke University.

*Sarah Stith (Associate Professor)*

Between Fall 2016 and Spring 2021, I served on fourteen departmental committees and two university committees. In terms of professional service, I discussed papers at five professional conferences, chaired three conference sessions, organized two conference sessions, and served as a reviewer for thirteen journals, including twice for the *Journal of Health Economics*, the top journal in my field. I contributed to my community by presenting before the New Mexico Legislature on the economics of recreational cannabis, teaching Continuing Legal and Medical Education courses on cannabis, and disseminating my research findings in press releases for the benefit of the general public.

*David van der Goes (Associate Professor)*

In the past five years I have served on the Graduate Committee three times and served as the director of graduate studies for one year. I have also served on the Salary Committee, the Core Exam Committee, and Teaching Effectiveness & Excellence ad hoc Committee, along with chairing the Econometrics Committee. I also serve on three committees for the Combined BAMD program, Eligibility & Professionalism, Health Medicine and Human Values, and CCSP. In 2020-2021 I was a member of the CAS RPT Committee for Mid-Probationary Review. I have reviewed for several journals, averaging more than two reviews per year, including Value in Health, Clinicoeconomics & Outcomes Research, Journal of Economics, Race & Policy, and several others. I serve on the North American Spine Society section on Intraoperative Neurophysiological Monitoring and was a founding member of the section.

Kira Villa (*Associate Professor*)

Since coming to UNM, I have served on six committees and chaired two of them. I am most proud of the work that we did on the Research Excellence Committee (REC) and the Graduate Committee. On the REC committee, we developed a tool to help evaluate publications in milestones and/or annual reviews. On the graduate committee we made a number of changes to our graduate program to improve student outcomes—I look forward to continuing this work as graduate director. I have also embraced opportunities to use my skills as an economist to serve my state of New Mexico. For example, with colleagues Robert P. Berrens and Melissa Binder, I co-wrote a white paper, which summarized current evidence on the returns to early childhood education and discussed this in relation to current programs offered in New Mexico. This paper was provided to the New Mexico Legislature (at their request) when legislation was being considered to increase funding for early childhood education in the state. Melissa and I are continuing this work in a project for the NM legislature estimating the long-term impact and returns of its early childhood policies/programs. Finally, I seek to serve my community through volunteer work. I participate in an annual “Serve the City” event in which churches throughout the city partner to clean schools, serve homeless shelters, work at food banks, and numerous other service activities. I have done volunteer work for the Children, Youth, and Families Department and Steelbridge, an organization serving Albuquerque’s homeless population.

Jingjing Wang (*Assistant Professor*)

I have served on a college/univ level search committee, and am serving on a college/univ level search committee and a grand challenge leadership team. I have reviewed proposals for an international funding organization. I am serving on an advisory board for a local water utility.

Xiaoyang Wang (*Assistant Professor*)

I have served in a series of departmental committees including the econometric exam committee, seminar committee and the AOP committee. For external service I have served as a peer reviewer for academic journals.

Yuting Yang (*Assistant Professor*)

Having just arrived at UNM, I am serving on departmental committees.

## Criterion 7. Peer Comparisons

*The degree/certificate program(s) within the unit should be of sufficient quality compared to relevant peers. (If applicable, differentiate for each undergraduate and graduate degree and certificate program offered by the unit.)*

**7A: Analysis** *Choose three peer departments from the Peer Comparison Template (Appendix E) to contrast with the unit. After completing the Template for these departments, provide an analysis of the comparison. Please describe aspects of your program that are unique compared to these peers.*

- *The unit may choose to select an alternative peer institution designated by a relevant regional, national, and/or professional agency.*

UNM's [Office of Institutional Analytics](#) (OIA) identifies 22 peer institutions from the HED because "their academic program offerings, enrollments, and mission closely resemble UNM's" and 22 peer institutions from IPED's that "includes a mix of demographically similar and aspirational peers." While at a university level, this may be true, identifying peer departments for the Department of Economics, is more difficult. We chose institutions that have an applied economics focus, with both an undergrad and a PhD program and, to the extent possible, those with specialty areas that are somewhat similar to the department's and appear on both the HED and the IPED's list.

We considered the following attributes when choosing the peer list of three:

- University Enrollment
- University Budget
- Research Status
- Student Composition
- Region of the U.S.
- PHD Granting Department
- Specialty Fields

Based on these criteria, we include

- University of Arizona
- University of Utah
- University of Colorado - Boulder

Table 7.1 provides basic comparisons. A more complete comparison is provided in Appendix E. UNM's main campus budget is substantially lower than the peer groups, as is the number of students on the main campus. We compare the UNM Department of Economics to the University of Arizona (UA) Agricultural Economics Department and to the economics departments at the University of Colorado - Boulder (CU) and the University of Utah (UU). All four institutions have undergraduate economics programs, as well as graduate programs. The size of the graduate program at UNM, in terms of students, is similar to that of CU; however, the T-TT faculty at UNM is half the size of that of CU. CU's undergraduate major's numbers are only slightly larger than that of UNM. This results in a substantial difference in the faculty to student ratios at both

the graduate and the undergraduate levels. UNM's graduate ratio is the highest of the four institutions and the undergraduate ratio is only higher for UU.

UNM's percentage of undergraduate female economics majors compares favorably to UU's - the only institution for which this metric was available. Our six-year graduation rate for undergraduates is slightly lower than that of UU.

Other information of note: Specific to CU, graduate students who maintain a 3.3 GPA and are in good standing are funded by the department through five years of the program. All PhD students at UA are funded. Funding across all institutions include a stipend, tuition, and healthcare. Stipends for the academic year range from \$14,550 at UNM to \$22,000 at CU. UNM's stipend is between 20 and 33% lower than these peer institutions.

Table 7.1: Peer Institution Comparisons (2020 data)

Institution	University of Arizona (Agricultural Economics)	University of Colorado - Boulder (Economics)	University of Utah (Economics)	University of New Mexico (Economics)
Attribute				
Total Budget (2020)	\$2.7 billion	\$1.79 billion	\$1.1 billion	\$0.9 billion
Percentage State Support	26%	4.3%	8%	22%
Total Student Body (Main Campus)	45,918	34,975	32,818	22,729
\$/Student	\$58.8K	\$51.2K	\$33.5K	\$39.8K
Economics Faculty (T/TT in department)	13	34	23	1
Economics Faculty Lecturers	0	7	1	3
PHD Enrollment	19	63	40	60
Master's Enrollment	15	0	21	0
Graduate Students Supported	19	60	29	42
GA Academic Stipend	\$18,000 (2020)	\$22,000 (2018)	\$16,500 (2019)	\$14,550 (2021)
Undergraduate Enrollment	--	144	337	125
Graduate Students/ T-TT	2.6	1.85	2.7	4.0
Students/ Total Economics Faculty	--	5.00	16.6	13.9
ERE	Y	Y	Y	Y
PE	N	Y	Y	Y
IDS	Y	Y	Y	Y
Undergraduate Majors Female	--	--	21%	41%
Six-Year graduation rate (economics)	--	--	67%	60%
R&D Expenditure Ranking (NSF 2019)	41*	86	206	132

\* Doesn't differentiate Agricultural Economics from Economics

Peer comparisons can be made on a variety of factors, but are often inexact because of the variations between universities and departments. The UNM economic department faculty size is larger than UA's, smaller than UU's, and considerably smaller than CU's. Our graduate student/T-TT ratio is considerably higher than those of these peer institutions. Our total student per total faculty ratio is larger than CU's but less than UU's. We compare favorably to the CU and UU in terms of the percentage of female undergraduate students. Our six-year graduation rate is lower than that of UU, the only peer institution for which graduation rates by department were reported. Finally, the percentage of graduate students supported in the department is similar to UU, but less than either AU or CU.

## Criterion 8. Resources & Planning

*The unit should demonstrate effective use of resources and institutional support to carry out its mission and achieve its goals.*

**8A: Budget** *Provide an analysis of the unit's budget, including support received from the institution and external funding sources.*

- *Include a discussion of how alternative avenues (i.e., summer bridge programs, course fees, differential tuition, etc.) have been explored to generate additional revenue to maintain the quality of the unit's degree/certificate program(s) and courses.*

Resource allocation and planning is performed principally by the department chair and the Department Administrator (DA) on a year-to-year basis. The DA works directly with College of Arts and Sciences' financial officer with reconciling expenses and monitoring budgets.

The department's largest revenue source is "hard money" from the university that is derived from tuition and the state formula revenue. This is used for instructional, administrative, and general expenditures (I&G). In FY21, the department received \$2.14 million in I&G funds to cover faculty and staff salaries, graduate student assistantships, and operating expenses. This is a 4.1% increase from the FY16 budget of \$2.06 million. Breaking this down by component parts, GA funding of \$222,095 comprises 10.4% of the current budget. Staff salaries of \$99,700 account for 4.7% of the budget. Faculty salaries of \$1.79 million account for 84% of the budget. The operating budget of \$30,470 accounts for less than 2% of the overall budget. While the overall budget has increased since 2016, the only area of increase in budget is in faculty salaries due, largely, to the addition of new faculty.

Table 8.1 provides the percentage change in allocations between FY16 and FY21. Staff salaries declined by 20%. In 2018, due to budget deficits in the College of Arts and Sciences (CAS), rather than cutting GA lines, the department staff was reorganized. Full-time staff positions were reduced from three to two. The reorganization eliminated the Coordinator, Graduate Programs (CGP) position and the job duties were reallocated to the Department Administrator and an Administrative Assistant III. The Administrative Assistant III resigned in spring 2019 and the department made a request to hire a CGP instead of an Administrative Assistant II. That position was filled in November 2019 and again in 2020. GA funds declined by 4% over the period and the operating budget declined by more than 25%.

Table 8.1: Percentage Change FY16 to FY21

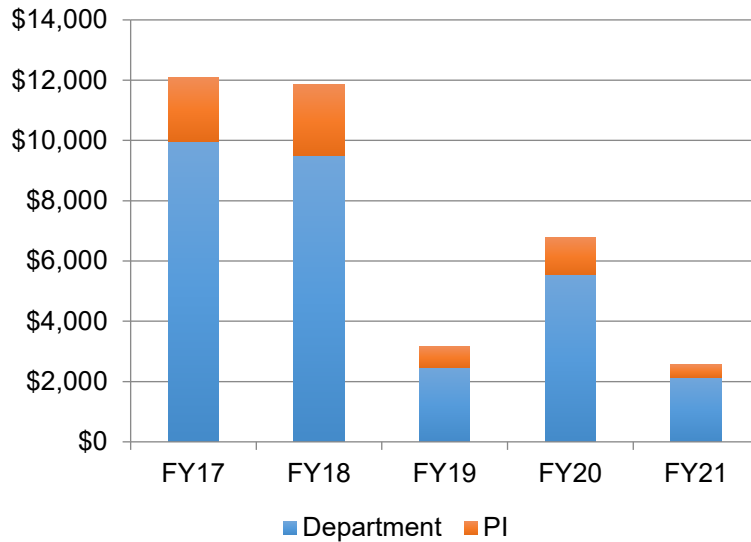
	Faculty	Staff	GA	Operating
Change	7.8%	-20.2%	-4.3%	-25.8%

The department also has "soft money" support that varies each year depending on the accelerated online program (AOP), externally funded research activity, returns on endowment funds, and course fees.

Funded research generates overhead, of which the department receives a portion. These funds are used to mainly to support research efforts of individual faculty and start-up packages for new faculty. The level of overhead depends on the activity level in the department, as well as decisions made at college or university levels. For example, the university moved to a "top-

slice” model in 2017, to fund the Office of Research. This has, in general, reduced the overhead contributions to departments. Graph 8.1 presents departmental and PI revenues from 2017 onward. The decline in FY2019 overhead returns is mainly due to a gap between two large projects. The 2021 levels are due to a) this not reflecting the entire year and b) lagging expenditures on grants due to COVID-19.

Graph 8.1: Overhead Return to the Department and to the PI



Money is also generated by the AOP and is used to provide summer AOP courses, which are not covered by the university, as well as additional costs of providing the AOP. The funds generated in any given year depend on the number of students who enroll in AOP economics courses. Cumulatively, AOP generated funds have exceeded the costs of the program to the department.

Endowment funds are derived from a variety of accounts overseen by the UNM Foundation, which are tied to specific endowments with the revenues used as dictated by the endowment. The current endowments for the department include:

- Gerald and Vivian Boyle Memorial Prize in Economics
- Julian S. Duncan Scholarship in Latin American Economic Studies
- Alfred L. Parker, PhD Economics Scholarship Fund
- J. Raymond Stuart Award in Economics
- Department of Economics Chair’s Fund
- Dr. Nathaniel Wollman Endowed Fund
- Michelle Elizabeth Canaday Memorial Endowed Scholarship Fund

Course fees are collected by the department for five econometrics courses: ECON 408, ECON 409, ECON 508, ECON 509, and ECON 510. The fee, \$25 per student per course, supports annual software licenses for the computer lab, utilized for both undergraduate and graduate courses.

A declining I&G budget has resulted in challenges. While we've increased out faculty numbers, the reduction in staff by one member has moved more responsibilities on to the two remaining staff members and more onto individual faculty members. Similarly, the 25% reduction in operating budget doesn't reflect waste by the department, but a shift of operating expenses to individuals in the department. Finally, the reduction in GA funds results in an increased challenge to the program to adequately fund graduate students for a reasonable period of time.

**8B: Staff** *Discuss the unit staff and their responsibilities (including titles and FTE). Include an overall analysis of the adequacy and effectiveness of the staff composition in supporting the mission and vision of the unit.*

The department has two full time staff positions: Department Administrator and Coordinator, Graduate Programs.

The Department Administrator (DA) is the departmental office manager, chief fiscal agent, chief human resources agent, and responsible for research grants and contracts in the department. This position requires a highly responsible individual with a variety of different skills and expertise. L. Hardesty has been the DA for eight years. She holds a Master's degree in Organizational and Informational Learning Sciences and is a doctoral candidate in the same program. She supervises the Coordinator, Graduate Programs and student employees.

The Coordinator, Graduate Programs (CGP) is chiefly responsible for working with prospective students interested in our Masters and PhD programs all the way through their graduation. These duties include assisting the graduate committee, composed of Economics faculty with student related concerns and progress in the program. The coordinator assists with admissions and student registration, student record keeping and oversight of the process for the comprehensive exam, econometrics exam, the research field paper requirement, and thesis and dissertation defenses. The coordinator also assists current students with navigating university systems. B. Talley the current CGP, joined the department in 2021.

When possible, the department hires a work-study or other student employee to assist with general office duties. This employee reports to the DA.

The staff provides tremendous service to the department. Without them, the department simply would not run. The reduction in numbers has increased responsibilities of each staff member and has reduced their efficiency as they are required to often interrupt their work to take on an unexpected, short-term task that is needed.

**8C: Advisory Board** *If the unit has an advisory board, describe the membership, their charge, and discuss how the board's recommendations are incorporated into decision-making.*

The department does not currently have an advisory board.



## Criterion 9. Facilities

*The unit facilities should be adequately utilized to support student learning, as well as scholarly/research activities.*

**9A: Current Space** *Provide an updated listing from UNM's current space management system of the spaces assigned to your unit (e.g., offices, conference rooms, classrooms, laboratories, computing facilities, research space, etc.). Discuss the unit's ability to meet academic requirements with current facilities.*

- *Explain if the unit has any spaces that are not documented in UNM's space management system.*
- *Explain the unit's unmet facility needs.*
- *If applicable, describe the facility issues that were raised or noted in the last APR. What were the results, if any?*

The Department of Economics is housed in the Economics Building. The Economics Building includes all Economics faculty and staff. The building also houses the Water Resource Program and the Master and Public Policy Program. The Economics building includes three classrooms, two computer labs, one research lab, 18 faculty offices, eight staff offices, the department and chair offices. The three classrooms have capacities of: 1002, 70 students; 1008, 20 students and 1052, 30 students. The two computer labs have a listed capacity of: 1004, 12 students and 1028, six students. The 1004 computer lab is maintained by IT Classroom Support Services. The 1028 computer lab is maintained by the Water Resource Program and Master and Public Policy Program. Staff offices include the offices for the Director of the Water Resource Program and program administrator; the Director of the Master and Public Policy and program administrator; plus, one office each for each program to dedicate as needed. The 7<sup>th</sup> staff office is for the Economics Department Administrator. The 8<sup>th</sup> staff office is for the Economics undergraduate advisor. The Coordinator, Graduate Programs' office is located in the main office suite. The remaining 13 offices are dedicated to graduate student work.

The department maintains the following spaces: two classrooms and one research lab. Through generous alumni foundation donations from Charles Lehman and the Derek Brumfield family, the department was able to upgrade the display technology in 1008 to Smart Board and in 1042 to a Clear Touch. The Department also installed a Smart Board in the research lab 1015 with a combination of research and departmental funds.

The 1004 computer lab is a centrally controlled computer lab and maintained by IT Classroom Support Technologies. The 1004 computer lab houses 18 computers and a teaching station. All software is maintained by IT Classroom Support Technologies. The Department pays for the renewal of annual licenses for STATA and RATS for student and instructional purposes. The computer lab does not have printing services.

The Economics Building was approved for a bathroom renovation program in 2013. The men and women's restrooms on the first floor were renovated in 2013, while the second-floor bathrooms were both renovated in 2015.

The Economics Building was approved for a \$2,500,000 renovation of the HVAC and controls systems for fire suppression, which was completed in February 2021 by Brycon Corporation.

This project involved demolition of all ceilings in the building in order to install new ductwork for the new HVAC heating and cooling system. The project included the total replacement of the entire building's Heating, Ventilation, and Air Conditioning systems along with replacement of the building's lighting systems. The new systems bring the building into the 21<sup>st</sup> Century with digital temperature control, energy efficient LED lighting and occupancy-based lighting controls. These features enhance the indoor environments while saving energy. In addition, life safety features such as a new fire sprinkler system and new fire alarm system were added and upgraded.

This project received additional funds from the Provost for Academic Affairs for a partial renovation of other parts of the building. This included renovating or refurbishing the centrally controlled classroom 1002; providing offices for the Water Resource Program and the Master of Public Policy Program; create two learning commons areas: one on the first floor and one on the second floor. These projects were completed at the same time as the HVAC and controls system project. They included demolition work of floor and ceiling in 1002, the main entryway 1000, 1028 and second floor 2015 area. The following offices and hallways received new paint in addition to the exterior walls that were painted as part of the scope of the project: 1006C, 1048, 1046, 1044, 1040, 1038, hallways 1003, 1000, 1037, 1039, and 1029; 2005, 2003, 2006, and hallways 2014 and 2020. New carpet was installed in the following offices as part of a change order in the project: 1008, 1006E, 1006D, 1006C, 1006B, 1006, 1036, 1044, 1048, 2026, 1022, 1025, 1027, 1045, 1043, 1041, 1042, 1038, 1040, 1002, 2023A, 2023B, 2023C, 2023, 2032, 2008, 2006, 2030, 2028, 2005, 2004, 2010, 2001, 2011, 2013, 2002, 2004, 2026 and 2021.

A number of offices had no renovation or, at best partial renovation, resulting in a building that still has an original elevator) and floor tiles purported to have asbestos.

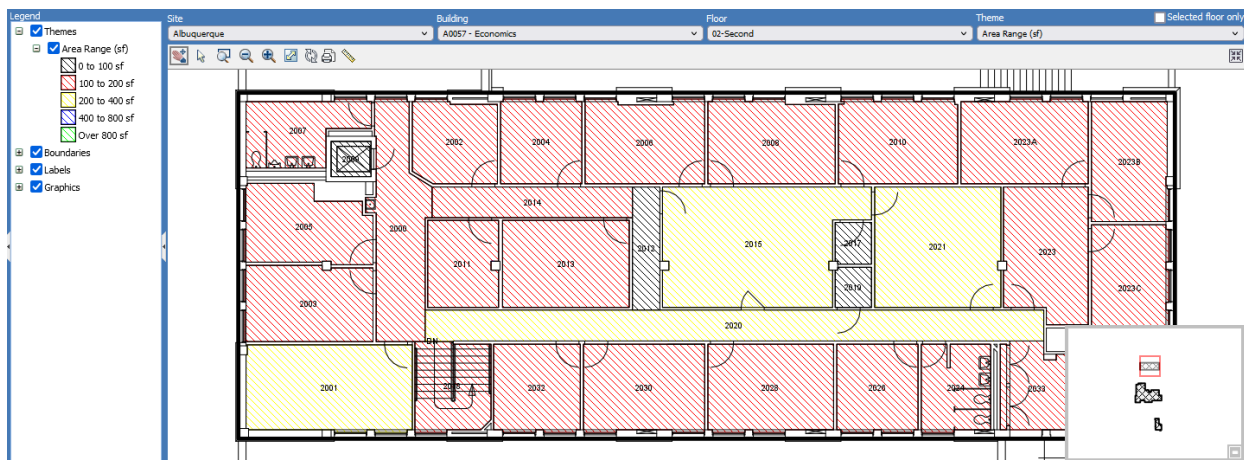
The approximate total square footage of the Economics building is 15,700 square feet. The first floor of the Economics building is approximately 9,700 square feet. The combined classroom and lab spaces are approximately 3,200 square feet for 1008, 1015, 1004, 1002, and 1028. There are 28 office spaces and two restrooms. Figures 8.1 and 8.2 provide the schematics of the first and second floors (pre-renovation), respectively.

Figure 8.1 Pre-renovation Schematic of the First Floor\*<sup>55</sup>



\*Provided by UNM FAMIS.

Figure 8.2 Pre-renovation Schematic of the Second Floor\*<sup>56</sup>



\* Provided by UNM FAMIS

The second floor of the Economics building is approximately 6000 square feet and has 20 office spaces and two restrooms.

**9B: Future Space Needs** *Discuss any future space management planning efforts related to the teaching, scholarly, and research activities of the unit. Include an explanation of any proposals*

<sup>55</sup> This drawing represents the building pre-2021 renovation. Room 1003 was demolished as part of the 2021 renovation project. Rooms 1028 and 1030 were merged to be one small computer lab with the number 1028.

<sup>56</sup> The separate large walled in space noted as 2015 is no longer enclosed as it was demolished during the 2021 renovation.

*that will require new or renovated facilities and how they align with UNM's strategic planning initiatives.*

- *Explain the potential funding strategies and timelines for these facility goals.*

The department space is appropriate for the current level of operations. While we lost substantial storage space under the HVAC renovation, and overall office space with the loan of offices to WRP and MPP, space is *currently* adequate

For the future there are a number of items that would make the space more functional. Included in this is updating technology in departmental controlled classrooms. The most recent updates have been through grants, alumni donations, and departmental expenditures. However, the remodel was hard on this equipment and part is no longer functional.

Remodeling of existing space could provide more functional space, as we lost multi-functional (i.e., small classroom and conference room) space through the remodel. In addition, with the closure of Parish library, a designated GIS station (donated by an alumnus), was moved to the department and is now housed in a portion of a storage area. The department also does not have a designated lactation room. One possible remodel would be to move the chair's office suite to the 1006 suite. This would then allow the current chair's suite to be remodeled into a faculty office, a small departmental controlled multifunction (classroom and conference) space, GIS space, and lactation room.

Updating outside security of the building is a priority in order to increase the security of students, staff, faculty, and visitors.

## **Conclusion Strategic Planning**

*Discuss the unit's strategic planning efforts going forward to improve, strengthen, and/or sustain the quality of its degree programs (if applicable, differentiate between undergraduate and graduate). Address all criterion, including but not limited to: student learning outcomes, curriculum, assessment practices, recruitment, retention, graduation, success of students/faculty, research/scholarly activities, resource allocation, and facility improvement.*

The department made considerable strides addressing concerns and comments from the 2011 APR. This was due to departmental efforts and support from the College of Arts and Sciences (CAS). To that end, our strategic planning stems from where we are now and how the department is fairing under our new set of circumstances from where we were in 2011. As the department plans for the next decade, budgetary challenges, enrollment numbers, especially at the undergraduate level, faculty composition, sustaining the graduate program, and continuing to maintain or improve the historic strength of the environmental and natural resource field, while supporting and strengthening the public economics and international development and sustainability fields are all issues the department will continue to address.

Addressing the required criteria from above:

### *Curriculum*

The graduate curriculum is appropriate for the existing three fields. The only planned change to the curriculum is to develop an applied theory course for the shared-credit program. The undergraduate curriculum, which is required to provide both general education courses and courses for the undergraduate major and minor, is substantial. While the curriculum at each level provides students with a range of courses, given the faculty size and the current number and graduate and undergraduate students, offering the curriculum is a challenge. This stems from both the number of undergraduate courses in the catalog, our faculty size, and the current practice of only scheduling one semester out. There is a difficulty in matching faculty to classes to provide adequate coverage for class offerings. Moving forward, the plan is to develop a multiyear course schedule, which provides students with the ability to plan several semesters out, and having at least two faculty committed to teaching any single course, could provide improved curriculum stability. This, however, is an endeavor that is a constrained optimization problem and may require an assessment of whether or not the department should streamline the curriculum at the undergraduate and/or the graduate level.

In addition, at the undergraduate level the department needs to assess the impact of the AOP on the traditional, face-to-face program in order to better understand where the AOP is a compliment to traditional program and where it is a substitute to the existing program. This is necessary from not only student outcomes and achievement, but also from a budgetary perspective.

### *Student Learning Outcomes and Assessment Practices*

The department annually meets our student learning outcomes metrics at both the undergraduate and the graduate levels. By this standard, the department is doing well with assessment. At the

undergraduate level, there is an ongoing discussion and evaluation of the SLO's, their adequacy, and the evaluation techniques. This is an aspect of the department that, frankly, does not require major modification, as evaluation is ongoing and the process is working well.

At the graduate level, while the department exceeds the minimum standards every year, an evaluation of the SLO's would be beneficial to ascertain if the SLO's adequately reflect the program. Similarly, an assessment of our evaluation criteria is warranted. This is especially true for the MA programs. This has been postponed for two reasons. First, the graduate committee is one of the most time-consuming committees and this hasn't been the highest priority. Second, it seemed more appropriate to undertake an evaluation of the graduate SLO's and the assessment mechanisms considering the Plan III Master's. In addition, assessment plan updates are suggested every three to five years. The last updates to our plans were in 2016, and so updates after the external review of the department will be timely.

### *Recruitment*

Recruitment at the graduate level is done with a minimal budget and is mainly the responsibility of the graduate committee. While the committee has been very successful, there are substantial difficulties in recruiting a graduate cohort that is large enough to sustain the three specialty fields. Budgetary limitations are one aspect of this problem. Second is the difficulty of diversifying graduate cohorts. This is true from both a gender and a race/ethnicity perspective. Our percentage of female graduate students is similar to national averages. However, while we are a minority and a Hispanic serving institution, our graduate student body does not necessarily reflect this. Finding a path forward to increase minority participation is a priority.

At the undergraduate level, recruitment is largely tied to CAS efforts, as reflected by the gender and diversity of our undergraduates. A focus of the department may be increasing the number of undergraduate first major economics students. Initiatives, as described in this report, that focus courses on specific issues or regions are a first step. Expanding this to a broader set of initiatives is desirable.

### *Retention*

Retention at both the graduate level and the undergraduate level are good. Faculty, and especially the graduate and undergraduate directors, provide extraordinary service to the department in their efforts to retain students.

### *Graduation*

Graduation rates at the undergraduate level are consistent with college and university levels and are fairly constant. At the graduate level, there is some concern with the time to degree for our PhD students. There is variation across cohorts and across advisors, but in general, the time to degree appears to be increasing, especially in the more recent cohorts. While this may be impacted by the pandemic and by uncertainty of funding, this is an issue of concern.

### *Student Success*

As indicated by the narrative in the report, our students are successful in completing their degrees at a rate that meets or exceeds that of the university as a whole. While we don't track our undergraduates, the anecdotal information is very positive. At the graduate level, student success, as indicated by employment is very good. Going forward, a better understanding of where our undergraduate go would be beneficial in assessing not only our SLO's, but also our curriculum.

At the graduate level, as indicated above, the time to degree is of concern. However, our students have had great success in finding employment and a large number of our placements are very good. While we have a substantial number of students who choose academics, the placements in industry and government are a substantial. Moving forward, improving the number of academic placements in T-TT positions is a priority. Individual faculty members have placed an emphasis on post-doctoral positions prior to a T-TT placement. This is an ongoing focus of the department.

### *Faculty Success*

Our faculty are productive and all contribute. Teaching is a priority in order to offer the undergraduate and graduate programs. Faculty contribute to the university in leadership roles, including deanships and the development of new programs (e.g., the Master in Public Policy). In addition, as shown by the individual service statements, faculty contribute to the department, CAS, the university, the local community and to the profession.

Specific to scholarship, at the aggregate, faculty publications are increasing, and average publications per faculty member are stable. However, annual publications for individual faculty members vary greatly. Faculty involvement in graduate advising is uneven between faculty members with some members taking on a large number of students. Support for graduate students through grant activity has been on the decline and is mainly carried by a relatively small set of faculty. To some degree, these are facts that can be said of almost any faculty in any department. The challenge going forward is to how best to utilize faculty expertise to not only maintain all aspects of the mission and to excel?

An additional place of concern is adequate mentorship of junior faculty. The department responded to the 2011 APR and developed a more formal mentoring process for Assistant Professors. That said, the success of the mentoring process is largely dependent upon the faculty members involved, as each mentee and their mentors develop their own interactive process. Expended resources at the university level, for example, ADVANCE, have enhanced the overall mentoring process, but the department should consider re-visiting this.

### *Facility Improvement*

The partial renovation of the economics building places the department in a good position moving forward, as the space is adequate and the facilities are reliable. A goal moving forward will be to improve those parts of the building that were not renovated.

### *Resource Allocation*

The department has faced declining budgets in the past several years. We have maintained faculty numbers and have even increased them since the last APR. A major concern has been the decline in staff numbers. A recommendation from the 2011 APR was to increase the staff size to three. While this was initially achieved, the decision to reduce staff back to two, due to budgetary concerns, has resulted a staff that is not an effective size for the department. This has resulted in an increased burden on faculty to take on an increased number of tasks that normally would be the purview of the staff and a staff that is over extended.

Reduced budget allocations to graduate assistantships, coupled with declining grant activity, and lengthening time to degree for PhD students has resulted difficult resource allocation decisions. Unlike peer institutions, we are not able to guarantee five years of departmental funding to each funded graduate student who is making normal progress. While the department has made heroic efforts and has continued to find ways to support students, this is not a long-term solution. The situation is further complicated by the need to have large enough cohorts to populate field courses and to be able to offer the field course sequences so that students can complete their course requirements. This is an ongoing discussion within the department.

### *Conclusion*

The department has much of which to be proud. The faculty and staff are dedicated, goal-oriented, professional, and supportive of one another and of students. Each excels in their own way. Student outcomes and success are a source of pride. And while, the faculty size is adequate, the department is still resource constrained. This is seen in our class schedules that are, at times, hampered by faculty and it is a factor in the declining external funding over the last several years, as faculty deal with increased demands on limited time. As we plan for the next decade, the largest challenge is developing a path forward that will:

- Provide a quality education to our students at the undergraduate and graduate level
- Successfully manages an online undergraduate degree, while maintaining the quality of our traditional degree
- Maintain the historic strength of the ERE field, while increasing the strengths of PE and IDS through needed and strategic faculty hires
- Expand our graduate program to include a shared credit master's that not only provide undergraduate students with an increased educational opportunity, but also provides the graduate program with additional high-quality students who will help stabilize our field course enrollments
- Support faculty endeavors both in scholarly work and in teaching
- Provide incentives to increase faculty participation in external grant funding
- Support our existing staff and provides a plan to increase staff support to the department
- Develop more efficient mechanisms for recruitment of students
- Expand resources to achieve all of the above.

The committee's insights to these issues, as well as recommendations, are greatly appreciated.



# Appendices