Degree/Certificate Program Assessment Report
College of Arts and Sciences
The University of New Mexico

Part I: Cover Page

Name of Degree or Certificate Program	**Degree Level**
Economics	*Bachelors*

Name of Academic Department (if not a standalone program): Department of Economics

Name of College/School/Branch: College of Arts and Sciences

Academic Year/Assessment Period: 2016 – 2017

Submitted By (include email address): Cristina Reiser (creiser@unm.edu)

Date Submitted to College/School/Branch for Review: 12/6/2017

Date Reviewed by College Assessment and Review Committee (CARC) or the equivalent:

State whether ALL of the program's student learning outcomes (SLOs) are assessed over one year, two years, OR three years:

> *Note to Committee: This report is based on the Economics BA Assessment Plan that has been implemented since 2008 with some slight modifications to the wording of SLOs. In the summer of 2017, the College of Arts and Sciences Assessment Committee approved an updated BA Assessment Plan (see Appendix 1, Item 1 for the updated plan). The new plan will go into effect for the assessment period 2017-18 AY.*
>
> The Economics Department assesses all SLOs over a two to three year period, depending on where we are in the assessment rotation cycle.

If the program's SLO's are targeted/assessed/measured within two years or three years, please state whether this assessment record focuses on SLOs from the first year, second year, or third year of your assessment cycle:

> This assessment record pertains to SLOs from the third year of our assessment cycle.

Describe the program changes that were implemented during this reporting period in response to the previous period's assessment results. Please include evidence of implemented changes in an appendix:

1. New course "Problem-Based Learning Using Data Analytics" now offered. 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 department has recently added a new course titled "Problem-based Learning Using Data Analytics," which exposes students to "real-world problems faced by the under-served community" and teaches them to "apply [data] analytical tools and offer implementable solutions." Please see Appendix 1, Item 2, which includes the proposed course description.

2. More electives offered. Further, graduating senior survey respondents indicated that the program could be improved by offering more elective courses at flexible times. In response, the department is now offering more online electives that meet the needs of diverse learners facing various time constraints. For example, in the Spring of 2018 and Summer 2018, the department will begin to offer ECON 315: Money Banking and ECON 307: Economics Tools online.

Describe any revisions to your assessment process that you made for this reporting cycle and/or plan to make for future reporting cycles:

1. Better coordination between Assessment Coordinator and faculty increased 400-level projects that were used for assessment. The Assessment Coordinator and faculty coordinated better (via e-mail and reminders in faculty meetings) about the importance of collecting 400-level papers for assessment. This better coordination led to an increase of 400-level projects being assessed.

2. Slight revisions to SLOs. Based on last year's workshop and as recorded in the BA Program Report for 2015-2016 AY submitted last year, faculty decided that the language for some of the SLOs was too restrictive. Based on this, the rubrics used to score direct measures and the survey language was amended. The following represents the changes made as they pertain to this assessment period's assessed SLOs:

SLO C2 (data analytics)
Before: "Students perform primary research on data they retrieve from original surveys, or official and industry sources."
Revised: "Students can identify data sources, describe empirical tools, and perform research on data retrieved from original surveys or official and industry standards."

SLO D1 (critical thinking)
Before: "Students evaluate public policy and other economic issues using economic models and data analysis and identifying underlying assumptions of the models and limitations of the data."

Revised: "Students evaluate public policy and other economic issues using economic models or data analysis while identifying underlying assumptions of the model(s) and limitations."

SLO E1 (communication)
Before: "Students effectively communicate economic ideas in writing and in oral presentations."
Revised: "Students will be able to effectively communicate economic ideas."

3. Updated BA Assessment Plan accepted and will be used starting for assessment reporting period 2017 – 2018. Through discussion with faculty in both the annual assessment workshop, undergraduate committee meeting, and faculty meeting, changes were made to our BA Assessment Plan (which was accepted in June 2017). This includes slight revisions to the student learning outcomes, a new assessment cycle, and new assessment measures.

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
C. DATA ANALYSIS: Familiarity with data methods, tools and sources	C1. Students generate and interpret summary statistics and regression models.	___ Knowledge _X_ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Direct Measure: The Department collected assigned term projects from three 400-level courses from the 2017 spring semester. Multiple reviewers scored the projects using a rubric delineating the focused SLOs. See Appendix 2, Item 3 for the rubric.

Indirect Measure: The Department asked graduating seniors to complete an anonymous self-assessment survey, which covers the program's SLOs and also asks for general feedback on the program. The survey is administered at the end of the fall and spring semesters. See Appendix 2, Item 4 for the senior survey.

Performance Benchmark:

Direct Measure: The criterion for success is at least 75% of students score "Acceptable or Better" for the SLO.

Indirect Measure: The criterion for success is at least 75% of respondents indicate they 'agree' or 'strongly agree' on their confidence in the SLO.

Sampled Population:

Direct Measure: All majors are required to take at least one 400-level course. For this assessment period, 32 students submitted projects.

Indirect Measure: All graduating economics majors are invited to take the survey. Of the 67 invited, 15 participated in the Fall 2016 and Spring 2017 survey.

Results:

Direct Measure: We passed our criterion for success. 86.7% of students scored acceptable or better in the ability to "generate and interpret summary statistics."

Indirect Measure: We passed our criterion for success. 100.0% of students 'agreed' or 'strongly agreed' that they can "generate and interpret summary statistics."

Open-ended Question Results from the Indirect Measure: 13 students responded to open-ended questions about the program. Written responses reflected general satisfaction with the program and with the Department. Of the 13, 4 respondents stated they chose economics as a

major because of the quantitative/critical thinking skills required. However, 4 respondents also suggested that more mathematics and statistics courses be required as pre-requisites. Specific suggestions were to offer a "skills" course that focused on using Excel and R. Several students also suggested that the department and advisors do a better job of communicating the importance of a mathematics or statistics major/minor for those pursuing an economics graduate program.

Analysis/Faculty Discussion:

The results were discussed at the annual Undergraduate Assessment Workshop, held in the fall of 2017. See Appendix 3 for faculty discussion notes (item 5 are notes from the workshop; item 6 is the brief report to the faculty).

Students in the BA program have demonstrated mastery of SLO C1. Our department has continued a focus on using empirics in the classroom. Further, ECON 309: Introductory Statistics and Econometrics is a required course for majors, so that by the time they graduate they have been exposed to the fundamental econometric tools used by economists, including generating and interpreting summary statistics.

That survey respondents suggested we do a better job of communicating the quantitative preparatory courses for graduate school (i.e., "if you plan to go to graduate school, you should take these math and statistics courses…") led to a more in-depth discussion. Our majors are provided this information through our website, when they meet with their academic advisor, and through an orientation given to new majors. However, when most students hear this information they may not recognize they want to go to graduate school.

Recommendations for Improvement/Changes:

In general, we see a trend towards students wanting more data analytics in their courses (survey results indicate they want to be 'better prepared' for the job market or graduate school). Faculty members are encouraged to continue their work on assigning data analysis projects in 400-level classes. Furthermore, the department will offer an additional section of ECON 307: Economics Tools online, starting in the summer of 2018, which will provide students more opportunity to engage in data analytics early on in their major.

In regards to communicating better about quantitative prep courses, faculty members are encouraged to repeat this information in their 300-level courses. This could be done on the syllabus or as an in-class reminder that the department website hosts recommended tracks for students, dependent on what they are interested in doing post-graduation.

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
C. DATA ANALYSIS: Familiarity with data methods, tools and sources	C2. Students can identify data sources, describe empirical tools, and perform research on data retrieved from original surveys or official and industry standards.	___ Knowledge _X_ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Direct Measure: The Department collected assigned term projects from three 400-level courses from the 2017 spring semester. Multiple reviewers scored the projects using a rubric delineating the focused SLOs. See Appendix 2, Item 3 for the rubric.

Indirect Measure: The Department asked graduating seniors to complete an anonymous self-assessment survey, which covers the program's SLOs and also asks for general feedback on the program. The survey is administered at the end of the fall and spring semesters. See Appendix 2, Item 4 for the senior survey.

Performance Benchmark:

Direct Measure: The criterion for success is at least 75% of students score "Acceptable or Better" for the SLO.

Indirect Measure: The criterion for success is at least 75% of respondents indicate they 'agree' or 'strongly agree' on their confidence in the SLO.

Sampled Population:

Direct Measure: All majors are required to take at least one 400-level course. For this assessment period, 32 students submitted projects.

Indirect Measure: All graduating economics majors are invited to take the survey. Of the 67 invited, 15 participated in the Fall 2016 and Spring 2017 survey.

Results:

Direct Measure: We passed our criterion for success. 92.59% of students scored acceptable or better in this SLO.

Indirect Measure: We passed our criterion for success. 100.0% of students 'agreed' or 'strongly agreed' that they "can identify data sources, describe empirical tools, and perform research on data retrieved from original surveys or official and industry standards."

Open-ended Question Results from the Indirect Measure: 13 students responded to open-ended questions about the program. Written responses reflected general satisfaction with the program and with the Department. Of the 13, 4 respondents stated they chose economics as a major because of the quantitative/critical thinking skills required. However, 4 respondents also suggested that more mathematics and statistics courses be required as pre-requisites. Specific suggestions were to offer a "skills" course that focused on using Excel and R. Several students also suggested that the department and advisors do a better job of communicating the importance of a mathematics or statistics major/minor for those pursuing an economics graduate program.

Analysis/Faculty Discussion:

The results were discussed at the annual Undergraduate Assessment Workshop, held in the fall of 2017. See Appendix 3 for faculty discussion notes (item 5 are notes from the workshop; item 6 is the brief report to the faculty).

Students in the BA program have demonstrated mastery of SLO C1. Our department has continued a focus on using empirics in the classroom. Further, ECON 309: Introductory Statistics and Econometrics is a required course for majors, so that by the time they graduate they have been exposed to the fundamental econometric tools used by economists, including generating and interpreting summary statistics.

That survey respondents suggested we do a better job of communicating the quantitative preparatory courses for graduate school (i.e., "if you plan to go to graduate school, you should take these math and statistics courses…") led to a more in-depth discussion. Our majors are provided this information through our website, when they meet with their academic advisor, and through an orientation given to new majors. However, when most students hear this information they may not recognize they want to go to graduate school.

Recommendations for Improvement/Changes:

In general, we see a trend towards students wanting more data analytics in their courses (survey results indicate they want to be 'better prepared' for the job market or graduate school). Faculty members are encouraged to continue their work on assigning data analysis projects in 400-level classes. Furthermore, the department will offer an additional section of ECON 307: Economics Tools online, starting in the summer of 2018, which will provide students more opportunity to engage in data analytics early on in their major.

In regards to communicating better about quantitative prep courses, faculty members are encouraged to repeat this information in their 300-level courses. This could be done on the syllabus or as an in-class reminder that the department website hosts recommended tracks for students, dependent on what they are interested in doing post-graduation.

On a more exciting prospect, in this current semester (Fall 2017) several undergraduates working with faculty members will present their research at a local conference. This is exciting for the department and we recommend that faculty members either begin to engage in independent studies with undergraduates or act as mentors for those students wanting additional research experience.

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
D. CRITICAL THINKING: Ability to apply, evaluate and critique economic models	D1. Students evaluate public policy and other economic issues using economic models or data analysis while identifying underlying assumptions of the model(s) and limitations	___ Knowledge _X_ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Direct Measure: The Department collected assigned term projects from three 400-level courses from the 2017 spring semester. Multiple reviewers scored the projects using a rubric delineating the focused SLOs. See Appendix 2, Item 3 for the rubric.

Indirect Measure: The Department asked graduating seniors to complete an anonymous self-assessment survey, which covers the program's SLOs and also asks for general feedback on the program. The survey is administered at the end of the fall and spring semesters. See Appendix 2, Item 4 for the senior survey.

Performance Benchmark:

Direct Measure: The criterion for success is at least 75% of students score "Acceptable or Better" for the SLO.

Indirect Measure: The criterion for success is at least 75% of respondents indicate they 'agree' or 'strongly agree' on their confidence in the SLO.

Sampled Population:

Direct Measure: All majors are required to take at least one 400-level course. For this assessment period, 32 students submitted projects.

Indirect Measure: All graduating economics majors are invited to take the survey. Of the 67 invited, 15 participated in the Fall 2016 and Spring 2017 survey.

Results:

Direct Measure: We passed our criterion for success. 81.13% of students scored acceptable or better in the ability to "evaluate public policy and other economic issues using economic models and data analysis and identifying underlying assumptions of the models and limitations of the data."

Indirect Measure: We passed our criterion for success. 86.67% of students 'agreed' or 'strongly agreed' that they are confident in their ability to "evaluate public policy and other economic issues using economic models or data analysis" and 86.67% 'agreed' or 'strongly agreed' that they can "identify underlying assumptions of these models or data; or potential limitations."

Open-ended Question Results from the Indirect Measure: 13 students responded to open-ended questions about the program. Written responses reflected general satisfaction with the program and with the Department. Of the 13, 4 respondents stated they chose economics as a major because of the quantitative/critical thinking skills required. However, 4 respondents also suggested that more mathematics and statistics courses be required as pre-requisites. Specific suggestions were to offer a "skills" course that focused on using Excel and R. Several students also suggested that the department and advisors do a better job of communicating the importance of a mathematics or statistics major/minor for those pursuing an economics graduate program.

Analysis/Faculty Discussion:

The results were discussed at the annual Undergraduate Assessment Workshop, held in the fall of 2017. See Appendix 3 for faculty discussion notes (item 5 are notes from the workshop; item 6 is the brief report to the faculty).

This year, we saw significant improvement in our direct assessment outcome. Last year, only 69.4% of students scored acceptable or better on the direct measure. Part of the increase is a rewording of the rubric – in the past, the SLO was asking whether students could "…evaluate issues using economics models and data analysis." We recognized that not all majors will partake in explicit data analysis projects and therefore changed the SLO to read as "…using economics models or data analysis." Further, the improved coordination between faculty members and the assessment coordinator meant that more 400-level projects (i.e., those submitted by more experienced majors) were assessed this year relative to last year (when the majority of projects assessed were from 300-level electives). As a department we're thrilled to see this improvement in such an important skills area.

Recommendations for Improvement/Changes:

The faculty is encouraged to continue their work on using models - both theoretical and empirical - in assessing policy issues, to have students conduct analysis through term papers or projects, and to share these with the assessment coordinator.

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
E. COMMUNICATION	E1. Students will be able to effectively communicate economic ideas.	___ Knowledge _X_ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Direct Measure: The Department collected assigned term projects from three 400-level courses from the 2017 spring semester. Multiple reviewers scored the projects using a rubric delineating the focused SLOs. See Appendix 2, Item 3 for the rubric.

Indirect Measure: The Department asked graduating seniors to complete an anonymous self-assessment survey, which covers the program's SLOs and also asks for general feedback on the program. The survey is administered at the end of the fall and spring semesters. See Appendix 2, Item 4 for the senior survey.

Performance Benchmark:

Direct Measure: The criterion for success is at least 75% of students score "Acceptable or Better" for the SLO.

Indirect Measure: The criterion for success is at least 75% of respondents indicate they 'agree' or 'strongly agree' on their confidence in the SLO.

Sampled Population:

Direct Measure: All majors are required to take at least one 400-level course. For this assessment period, 32 students submitted projects.

Indirect Measure: All graduating economics majors are invited to take the survey. Of the 67 invited, 15 participated in the Fall 2016 and Spring 2017 survey.

Results:

Direct Measure: We passed our criterion for success. 85.19% and 77.78%t of students scored acceptable or better in their writing argument ability and writing style ability, respectively.

Indirect Measure: We passed our criterion for success. 100% of students 'agreed' or 'strongly agreed' that they can "effectively communicate economic ideas in writing" while 86.67% stated they can effectively communicate ideas orally."

Open-ended Question Results from the Indirect Measure: 13 students responded to open-ended questions about the program. Written responses reflected general satisfaction with the

program and with the Department. Of the 13, one stated the department should offer more opportunities for oral presentations.

Analysis/Faculty Discussion:

The results were discussed at the annual Undergraduate Assessment Workshop, held in the fall of 2017. See Appendix 3 for faculty discussion notes (item 5 are notes from the workshop; item 6 is the brief report to the faculty).

Students in the BA program have demonstrated mastery of SLO E1. Many majors take ECON 307, which introduces them to the writing conventions of economists and requires they present a research paper as an end of term project. Furthermore, faculty members have begun to include more communication-based assignments in classes (e.g., discussion forums, writing papers or memos in early 300-level courses, participating in research posters and projects)

Although the majority of students felt they could communicate ideas orally and through writing, the majority felt they weren't given sufficient opportunity to do so. Interestingly, 46% of students surveyed indicated they felt they weren't given sufficient opportunity to develop communication skills through written assignment and 74% through oral assignments.

Recommendations for Improvement/Changes:

First, faculty members teaching the required 300-level courses (Intermediate Microeconomic Theory, Intermediate Macroeconomic, and Introductory Econometrics and Statistics) are encouraged to assess students on their communication skills (e.g., through examinations, oral presentations on research, discussion forums, etc.). To help motivate this and ease grading, instructors will be provided written and oral communication skills rubrics to use in class. The faculty believe that introducing these assessments early will not only allow students to practice and advance their communications skills but the provide the opportunities for practice that seniors believe they aren't afforded.

Second, in this current semester (Fall 2017) several undergraduates working with faculty members will present their research at a local conference. This is exciting for the department and we recommend that faculty members either begin to engage in independent studies with undergraduates or act as mentors for those students wanting additional research experience.

Finally, the Undergraduate Committee continues to work on two strategies to incentivize students to communicate their own research. The first strategy is to host an end of semester or end of year undergraduate student poster session, where students can connect with each other and with other faculty members about the research they've done. Second, is a website linked to the UNM Department of Economics website where students can publish student essays or research papers they've worked on.

Appendix 1 – Evidence of changes in response to previous assessment results

Item 1: Updated BA Assessment Plan

Academic Program
Plan for Assessment of Student Learning Outcomes
College of Arts and Sciences
The University of New Mexico

A. College, Department and Date

1. College: *College of Arts and Sciences*
2. Department: *Department of Economics*
3. Date: *June 1, 2017*

B. Academic Program of Study*
B.A. Economics

C. Contact Person(s) for the Assessment Plan
Cristina Reiser, Lecturer III, creiser@unm.edu

D. Broad Program Goals & Measurable Student Learning Outcomes

1. Broad Program Learning Goals for this Degree/Certificate Program

A. THEORY: Mastery of basic economic theory.
B. INSTITUTIONAL CONTEXT: Familiarity with institutions that shape economic behavior.
C. DATA ANALYSIS: Use of data sources, methods, tools and analysis used in economics.
D. CRITICAL THINKING: Apply, evaluate and critique economic models.
E. COMMUNICATION: Communicate economic ideas.
F. ECONOMIC CITIZENSHIP: Consideration of alternative viewpoints on policy issues.

2. List of Student Learning Outcomes (SLOs) for this Degree/Certificate Program

A.1. Students will be able to explain, graph and analyze key economics models.
UNM Goals (_X_ Knowledge _X_ Skills __ Responsibility)

B.1. Students will be able to analyze the economics and institutional arrangements of specific regions, countries, organizations, localities, industries or firms.
UNM Goals (_X_ Knowledge _X_ Skills _X_ Responsibility)

C.1. Students will be able to generate and interpret summary statistics and regression models.
UNM Goals (_X_ Knowledge _X_ Skills ___ Responsibility)

* Academic Program of Study is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

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.
UNM Goals (_X_ Knowledge _X_ Skills ___ Responsibility)

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.
UNM Goals (____Knowledge _X_ Skills _X_ Responsibility)

E.1. Students will be able to effectively communicate economic ideas.
UNM Goals (___ Knowledge _X_ Skills ___ Responsibility)

F.1. Students will be able to formulate informed opinions on policy issues and recognize the validity of opposing viewpoints.
UNM Goals (__ Knowledge _X_ Skills _X_ Responsibility)

E. Assessment of Student Learning Three-Year Plan

1. Timeline for Assessment

	Brief Timeline for Assessment: Department of Economics	
Year/Semester	**SLOs Assessed**	**Assessment Activities**
Year 1, Fall	A1, C1, C2, and E1	– Results of previous year's assessment discussed (SLOs B1, D1, and F1); recommendations made at Undergraduate Assessment Workshop – Recommendations formalized and presented to faculty – Collection of Year 1 assessment data
Year 1, Spring	A1, C1, C2, and E1	– Collection of Year 1 assessment data continues
Year 2, Fall	B1, D1, and F1	SLOs assessed in Year 2: B1, D1, and F1 – Results of previous year's assessment discussed (SLOs A1, C1, C2, and E1); recommendations made at Undergraduate Assessment Workshop – Recommendations formalized and presented to faculty – Collection of Year 2 assessment data
Year 2, Spring	B1, D1, and F1	– Collection of Year 2 assessment data continues
Year 3, Fall	A1, C1, C2, and E1	Same as year 1
Year 3, Spring	A1, C1, C2, and E1	Same as year 1

2. How will learning outcomes be assessed?

A. What:

Summary Table of Assessment Measures: Department of Economics	
SLO	**Means of Assessment, Type of Assessment, and Performance Target**
A.1	1. Embedded questions across ECON 300 sections. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the question. 2. Embedded questions across ECON 303 sections. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the question. 3. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate themselves as "proficient" or better for this SLO.
B.1	1. Assignment scored using a rubric in an upper-level elective course. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the SLO. 2. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate themselves as "proficient" or better for this SLO.
C.1	1. Assignment scored using a rubric in ECON 309 sections. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the question. 2. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate themselves as "proficient" or better for this SLO.
C.2	1. Assignment scores using a rubric in an upper-level elective course. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the question. 2. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate themselves as "proficient" or better for this SLO.
D.1	1. Assignment scored using a rubric in an upper-level elective course. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the SLO. 2. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate themselves as "proficient" or better for this SLO.
E.1	1. Embedded questions across ECON 300 sections. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the question. 2. Embedded questions across ECON 303 sections. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the question. 3. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate

	themselves as "proficient" or better for this SLO.
F.1	1. Assignment scored using a rubric in an upper-level elective course. This is a direct measure. Performance target: 75% of students score "acceptable or better" on the SLO. 2. Senior Survey, which asks students to rate their own understanding of each SLO. This is an indirect measure. Performance target: 75% of students rate themselves as "proficient" or better for this SLO.

Economics majors are required to take three 300-level core courses – ECON 300: Intermediate Microeconomic Theory, ECON 303: Intermediate Macroeconomic Theory, and ECON 309: Introductory Statistics and Econometrics. These core courses provide the foundational skills that our majors require in terms of the theoretical and empirical aspects of the discipline. It is within these courses that SLOs A1, C1, and E1 will be assessed. Each instructor will report results back to the undergraduate assessment coordinator to be aggregated and used in the assessment report.

Outside of these core courses, students must also complete eighteen hours of upper level electives (fifteen credit hours of 300-level electives and at least one 400-level elective course). The department offers a variety of upper-level electives each semester on a rotating basis; where each elective may not, by itself, cover the remaining SLOs (B1, C2, D1, and F1). As such, the department assessment coordinator will collaborate with faculty to decide which "course(s)-assignment pair" will be used for assessment purposes. Each instructor will report results back to the undergraduate assessment coordinator to be aggregated and used in the assessment report. (As a hypothetical example, in Year 1 SLO C2 might be assessed using a research project in ECON 408: Forecasting. In Year 2, SLO B1 might be assessed using a case study in ECON 421: Latin American Economics, and SLOs D1 and F1 might be assessed using a paper in ECON 342: Environmental Economics.)

In summary, our assessment measures

- consist of a minimum of four direct measures: (1) embedded question in ECON 300, (2) embedded question in ECON 303, (3) scored lab assignment in ECON 309, (4+) and any number of assignments (e.g., case study, research paper, journal article review) in various upper-level electives.
- consist of one indirect measure: student self-evaluation of each SLO
- use evidence from all majors (see section below)
- ensure each SLO is assessed using at least two measures
- ensure each SLO is assessed using at least one direct measure and one indirect measure

B. Who:

The program assessment plan ensures that evidence from all majors will be collected at some point through their progression to graduation. All majors firstly provide evidence through their required courses (ECON 300, ECON 303, ECON 309) and through the participation in the senior survey. A major will also provide evidence through any one of the six upper-level electives chosen.

3. What is the unit's process to analyze/interpret assessment data and use results to improve student learning?

A. Who

Faculty, department advisor(s), and graduate teaching students all participate in the assessment process.

The Undergraduate Assessment Coordinator (UAC), a faculty member, will have the primary responsibility of creating the assessment rubrics in consultation with other faculty, ensuring assessments are appropriate, gathering student work, interpreting the data, and preparing/submitting reports to the faculty and to CAS Assessment.

The UAC will also host an annual Undergraduate Assessment Workshop, where the previous years' assessment results, instruments, and recommendations will be discussed. Faculty, graduate teaching instructors, and department academic advisors are invited to attend.

The Undergraduate Committee will convene after the workshop to develop any recommendations for improvement. A summary of the assessment report and any recommendations will be considered to the faculty as a whole at a monthly faculty meeting.

B. Revising assessment instruments, curriculum and pedagogy to improve student learning

After the gathering of assessment data is collected, the Undergraduate Assessment Coordinator (UAC) hosts an annual Undergraduate Assessment Workshop in the fall, where the previous years' assessment results, instruments, and recommendations will be discussed. Faculty, graduate teaching instructors, and department academic advisors are invited to attend.

In large part, the workshop is intended to bring the faculty, graduate teaching instructors, and department academic advisors together to discuss plans for improving the program. The agenda includes a brief presentation of assessment results followed by discussion on changes to assessment mechanisms, curriculum design, pedagogy, and the assessment plan itself.

After the workshop, the Undergraduate Committee convenes to summarize the workshop discussion and decide upon any recommendations to improve the program. These recommendations are written, by the UAC, in a report to the faculty.

This report to the faculty, along with a summary of assessment results, is presented to the faculty at a faculty meeting.

C. How, when, and to whom will recommendations be communicated?

In the fall at the annual Undergraduate Assessment Workshop, recommendations are discussed based on a summary of assessment result. Then, the Undergraduate Committee meets to formalize recommendations, where the Undergraduate Assessment Coordinator writes a brief report to the faculty. This report is communicated to the entire Department of Economics faculty at faculty meeting, where any recommendations with voting approval required are discussed in greater detail.

Item 2: Description of Proposed Course: Problem-Based Learning with Data Analytics

Catalogue Description: STEM bridge interdisciplinary class bringing real world problems faced by the underserved communities (environment, health, socio-economic knowledge, & technological inequities) for empirical analysis & public policy deliberations; using data analytical tools students offer implementable solutions.

An example of social-ecological systems as a theme: This course offers a problem-based learning (PBL) environment that brings real world problems (e.g., water quality, sanitation infrastructure & practices, public health outcome, attitude, and knowledge) into the classroom for analysis and policy deliberation. That is, using the real-world from the ground, students will use statistical software and visualization tools to unravel potential linkages through hypothesis testings. In a group setting, students can also deliberate and think about solutions and develop conceptual framework for intervention programs (e.g., environmental awareness, personal sanitation), encourage evidence-based decision making (e.g., riparian zoning), suggest and/or develop appropriate technology (e.g., water filtration), help develop scientific tools and protocols (e.g., data gathering techniques through school curriculum or citizen science –e.g., BEMP), for a possible implementation in the field –DEMP (e.g., through student club).

Appendix 2 – Assessment instruments

Item 3: Rubric used for Direct Measure

SLO	Exemplary (3)	Acceptable (2)	Unacceptable (0)	Score (3,2,0)
C2. Data Analysis: Collection	Demonstrates skillful use of retrieving and managing high quality data from credible, and relevant sources that are relevant to the discussion. Includes complete information about data set and all variables.	Demonstrates moderately skillful use of retrieving and managing quality data. Most data comes from credible and relevant sources that are relevant to the discussion. Includes near complete information about data set and all variables, but may miss one or two details.	Fails to demonstrate any skill in retrieving and managing quality data. Most data lacks credibility and/or comes from irrelevant sources. Fails to provide enough information on data set and variables.	
C1. Data Analysis: Interpretation	Accurately generates and interprets summary statistics and regression models. May use other approaches that demonstrate a thoughtful exploration of what the data show. Derives reasonable conclusions. Where appropriate, points out discrepancies and considers alternative hypotheses.	Generates and interprets summary statistics and regression models, but may miss one or two details. May overstate conclusions or oversimplify results.	Data work is sloppy. Draws inaccurate conclusions.	
E1. Writing-Argument	Provides a clear and concise statement of sophisticated, nuanced or original thesis, demonstrating depth. Constructs a reasoned and thorough argument to support thesis using data, or the predicted outcomes from a theoretical model. Addresses weaknesses or limitations of the argument.	Provides a reasonably clear statement of straightforward thesis. Provides supporting evidence, but may not acknowledge limitations, or may leave obvious questions unexplored.	Thesis is unclear or the argument is not thorough or contains logical or factual errors. Does not provide supporting evidence.	
E1. Writing-Style	Writing is elegant: sentence structures vary, ideas transition well, argument is logical and easy to follow. Few, if any, editing errors. Writing is stand-alone from any graphs or figures.	Writing is clear but lacks elegance. Weak transitions or organization, or some poor word choices or a few awkward sentences impede flow of ideas.	Writing is hard to follow, imprecise or confusing. There are multiple grammar and word choice mistakes. Writing is too colloquial.	
E1. Writing-Tables & Figures	Tables, charts, graphs, and figures contribute to the reader's understanding, easy to interpret, simple & elegant, and are formatted professionally. Few, if any, errors exist. Complete and self-explanatory.	Tables, charts, graphs, and figures contribute to the reader's understanding, are generally easy to interpret, and are formatted appropriately. Some errors and/or ambiguities exist; graphs may have too much extraneous detail (e.g., shading, 3D)	Tables, charts, graphs, and figures do not contribute to the reader's understand, are difficult to interpret and not formatted appropriately.	
D1. Critical Thinking	Carefully evaluates public policy and other economic issues using an economic model or models and data analysis. Accurately identifies underlying assumptions of the model and its limitations.	Explicitly or implicitly evaluates public policy and other economic issues using an economic model or models and data analysis. Identifies underlying assumptions of the model and limitations, but may miss one or two details.	Fails to evaluate public policy and other economic issues using an economic model or models and data analysis. OR uses an irrelevant model and data. Normative statements exist throughout the paper.	

Item 4: Senior Survey (Indirect Measure)

Copy of 2016-2017 Outgoing Senior Survey

Dear Graduating Econ Major,

In our ongoing efforts to improve the Economics Major, we ask every graduating class to tell us how we did and what we could do better. Past respondents have helped the department develop new courses, create better sequencing guidelines and provide more support for graduate student instructors. We look forward to hearing what you have to say.

The survey should take anywhere between 5 minutes and 15 minutes to complete.
The survey is anonymous and will not link your name to your responses.

We thank you, in advance, for your time, effort and ideas!

Sincerely,

Cristina

Cristina Reiser. Lecturer III and Undergraduate Assessment Coordinator, Department of Economics University of New Mexico 277-3629 creiser@unm.edu

Q1: Do you expect to graduate, or did you graduate this academic year? Fall 2016, Spring 2017 or Summer 2017?

◯ Yes ◯ No

Demographics and Background

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q2: How old are you?

[ ]

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q3: What is your gender?

◯ Female ◯ Male ◯ Non-binary

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q4: Indicate your race/ethnicity. You may select more than one.

☐ White, non-Hispanic ☐ Hispanic, any race ☐ American Indian, non-Hispanic
☐ African-American, non-Hispanic ☐ Asian, non-Hispanic

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Note: if you have answered/chosen item [2] in question 1, skip the following question

Q5: Where did you go to high school?

- ◯ Albuquerque or surrounding area (Rio Rancho, Bernalillo, Los Lunas, etc.)
- ◯ Another city or town in New Mexico
- ◯ Arizona, Colorado, or Texas
- ◯ Another state in the US
- ◯ Outside the US

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q6: What category below best represents your grades for your Economic classes only?

◯ Mostly A's ◯ A's and B's ◯ Mostly B's ◯ B's and C's ◯ Mostly C's

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q7: What do you plan on doing after graduation? You may select more than one.

- ☐ Working at job I currently hold
- ☐ Looking for Work
- ☐ Pursuing an MBA
- ☐ Pursuing a Master's degree in another field
- ☐ Pursuing a PhD in another field
- ☐ Other (please specify:)
- ☐ Working at new job
- ☐ Pursuing a Master's degree in Economics
- ☐ Pursuing a Law Degree
- ☐ Pursuing a PhD in Economics
- ☐ Travel

If you have chosen "other", please specify:

What You Learned About Economics

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q8: Please rate your ability to explain the following elements of economic theory on a scale of 0-5, where 0 indicates never having been exposed to the subject, 1 is "Poor" and 5 is "Excellent".

THEORY	0	1	2	3	4	5
Supply and demand	◯	◯	◯	◯	◯	◯
Theory of the firm (production functions, markets, profit-maximization, etc.)	◯	◯	◯	◯	◯	◯

Comparative advantage	○	○	○	○	○	○
Opportunity cost	○	○	○	○	○	○
Game theory (simultaneous games, sequential games, Nash equilibria, etc.)	○	○	○	○	○	○
Externalities	○	○	○	○	○	○
Public goods	○	○	○	○	○	○
Consumer theory (preferences, budget constraints, demand, etc.)	○	○	○	○	○	○
Compensating wage differentials (how risk can explain wage differences)	○	○	○	○	○	○
Determinants of Economic Growth	○	○	○	○	○	○
Short-Run Economic Fluctuations (or Business Cycles)	○	○	○	○	○	○
Fiscal and Monetary Policy	○	○	○	○	○	○
Aggregate Demand and Aggregate Supply	○	○	○	○	○	○
Inflation and Unemployment (or Phillips Curve)	○	○	○	○	○	○
Money and Banking System	○	○	○	○	○	○

IS-LM Model	○	○	○	○	○	○

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q9: The following asks about your familiarity with graphing and explaining key economic models. Please indicate your level of agreement with the following:

THEORY	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
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.)	○	○	○	○	○
I can explain and analyze key economics models (e.g., supply and demand, utility-maximization, profit-maximization, AD-AS, IS-LM, externalities, etc.)	○	○	○	○	○

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q10: The following asks about your familiarity with institutions that shape economic behavior. Please indicate your level of agreement with the following:

INSTITUTIONAL CONTEXT	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

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	○	○	○	○	○
As part of my economics coursework, I was required to produce oral presentations considering the economics and institutional arrangements of specific regions, countries, localities, organizations, industries or firms	○	○	○	○	○

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q11: We would like to know how familiar you are with data methods, tools and sources. Please let us know if you agree with the following statements.

DATA ANALYSIS	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I can generate and interpret summary statistics and regression models	○	○	○	○	○
As part of my coursework, I identified data sources, described empirical tools, and performed research on data retrieved from original surveys or official and industry sources.	○	○	○	○	○
I can manage data in Spreadsheets and Statistical software packages	○	○	○	○	○

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q12: Do you agree with the following statement about critical thinking?

CRITICAL THINKING	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I can evaluate public policy and other economic issues using economic models or data analysis.	○	○	○	○	○
I can identify underlying assumptions of these models or data; and potential limitations.	○	○	○	○	○
I can distinguish between positive and normative claims	○	○	○	○	○

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q13: Can you communicate what you learned about Economics? Please let us know whether you agree with the following statements.

COMMUNICATION	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I can effectively communicate economic ideas in writing	○	○	○	○	○
I can effectively communicate economic ideas orally	○	○	○	○	○
I was given sufficient opportunity to develop my communication skills through written assignments	○	○	○	○	○
I was given sufficient opportunity to develop my communication skills through discussion and participation.	○	○	○	○	○

I was given sufficient opportunity to develop my communication skills through oral presentations.	○	○	○	○	○

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q14: The following asks about your "economic citizenship". Please indicate your level of agreement with the following:

ECONOMIC CITIZENSHIP	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I was encouraged to formulate informed opinions on policy issues	○	○	○	○	○
I was encouraged to recognize the validity of viewpoints other than my own	○	○	○	○	○

Your Feedback

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q15: Overall how would you rate the Econ Program?

○ 1 (Poor) ○ 2 ○ 3 ○ 4 ○ 5 (Excellent)

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q16: Why did you choose Economics as your major?

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q17: What were some good and/or most helpful things about the program?

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q18: What were the most frustrating and/or bad things about the program?

Note: if you have answered/chosen item [2] in question 1, skip the following question

Q19: How can we improve the program for future students?

Note: if you have answered/chosen item [1] in question 1, skip the following question

Q20: If you are not graduating this academic year please update your records with Meghan Lippert, the Senior Academic Advisor and Undergraduate Advisor for Economics majors. Meghan holds office hours in the department. Call 277-4621 to make an appointment or to find out about walk-in hours.

Appendix 3 – Evidence of faculty discussion (e.g. meeting minutes)

Item 5: Brief Notes from the Undergraduate Assessment Workshop

Undergraduate Assessment Workshop (November 15th, 2017, 2:30pm – 4:00pm ECON 1052)
Assessment Year 2016-2017

Dave Dixon
Cristina Reiser
Christine Sauer
Xiaoxue Li
Kira Villa
Melissa Binder
Jose Bucheli
David Van der Goes
Bob Berrens
Jake Organ
Disha Shende
Mohammed Rahman
Richard Santos

CR: How can we improve learning?

Slide show: what is assessment and why is it worth doing?

Continuous improvement.

1. What can we do to improve student learning?
2. What should be maintained?
3. What should be strengthened and how?

BA program
Indirect measure: Senior Survey

Discussion about results-some assessments of learning a little lower than previous years
Response rate was 15/63= 24% -- disappointing

Open-ended questions: why don't we have a BS? Can we communicate better about math requirements for grad school?

Bob: we have students with varied interests and backgrounds; we have to be comfortable with that.

Direct measures: 400-level projects
27 projects, 32 students

syllabus alignment: could faculty align BA goals with course goals

Bob: new course, other stuff

Undergrad committee should consider requiring 300 AND 303; Dave's students are taking only 303.

Richard says should we be emphasizing what is special about us.. . .

We need to publicize / brand more. . .

Diversity

Item 6: Brief Report to Faculty (December 6th, 2017)

Wednesday, December 6th, 2017
Report to the Faculty on the Gen Ed and BA Program Assessment Workshop
Workshop held November 8th, 2017

Overview
Nine faculty members and four graduate students attended the Assessment Workshop. This year, the workshop was split into four parts. The first portion focused on the "What, How, and Why?" of Assessment. The second portion focused on the BA Program Assessment (graduating senior survey results and 400-level project assessment results). The third portion focused on the Gen Ed Program (105 and 106 Opinio survey results). The final portion focused on looking at available data on our majors.

After the assessment workshop, the Undergraduate Committee met to discuss any call to actions.

Brief Summary of Results
1. BA Assessment covered SLO's related to Data Analysis, Critical Thinking, and Communication. Direct measures included a review of 400-level papers using a rubric that delineated each SLO. Indirect measures included an anonymous survey to all graduating seniors. ***Results on both measures indicate that we've passed our baseline targets for meeting SLOs.***
2. Core Assessment includes a direct quiz given to all ECON 105 and ECON 106 across Main Campus. ***Results indicate that we've passed our baseline target for meeting all ECON 105 and ECON 106 SLOs.***

Recommendations

1. **In order to elicit more senior survey responses,** the UG committee recommends that the faculty make announcements to their graduating seniors of the survey (a pre-announcement), and that the Department Chair send an email to each graduating senior inviting them to participate.
2. **UG Assessment Coordinator will review and edit end of semester quiz survey questions.**
3. **When teaching an UG course, faculty members are encouraged to write course level objectives based on our department SLOs and to ensure that 105 & 106 teaching mentees use SLOs on syllabus.** (See website
4. **Communicate better about math preparation for graduate school.**
5. **UG Committee will need to meet to discuss possibility of inviting graduating seniors (e.g., ODE) to assessment workshop.**

Going Forward
1. New assessment plan was accepted earlier this year. For this AY we will assess SLOs relating to Theory, Data Analysis, and Communication *via ECON 300, 303, 309, and 400-level* courses. The UG Assessment Coordinator will be in touch with those recorded to teach these courses to plan assessment measures and data collection accordingly.