

Assurance of Student Learning Report 2023-2024

Gordon Ford College of Business/Ogden College

Economics

Mathematical Economics BS 731

David Zimmer, Chair

Is this an online program? ☐ Yes ☒ No

Please make sure the Program Learning Outcomes listed match those in CourseLeaf . Indicate verification here
☒ Yes, they match! (If they don't match, explain on this page under **Assessment Cycle**)

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages. Add more Outcomes as needed.

Program Student Learning Outcome 1: Students will demonstrate their ability to apply mathematical models to study economic questions.

Instrument 1 Direct: Analysis of Capstone Project/Research Paper

Based on your results, check whether the program met the goal Student Learning Outcome 1.

☐ Met

☒ Not Met

Program Student Learning Outcome 2: Students will demonstrate ability to convey their research findings using oral communication.

Instrument 1 Direct: Capstone Project Poster Presentation

Based on your results, check whether the program met the goal Student Learning Outcome 2.

☒ Met

☐ Not Met

Program Student Learning Outcome 3: Students will demonstrate knowledge of key principles of microeconomics.

Instrument 1 Direct: Microeconomics Exam

Based on your results, check whether the program met the goal Student Learning Outcome 3.

☒ Met

☐ Not Met

Program Student Learning Outcome 4: Students will demonstrate knowledge of key principles of macroeconomics.

Instrument 1 Direct: Macroeconomics Exam

Based on your results, check whether the program met the goal Student Learning Outcome 4.

☒ Met

☐ Not Met

Student Learning Outcome 1

Student Learning Outcome	Students will demonstrate their ability to apply mathematical models to study economic questions.		
Measurement Instrument 1	DIRECT measures of student learning: Students in the Mathematical Economics major (731) are required to complete a capstone course at the end of the program (ECON 497 or MATH 497). One of the requirements of the course is to write a research paper that synthesizes the knowledge or economics and mathematics. The goal of the project is to assess how well the students can apply their knowledge to study real-world questions. The papers are evaluated on the following criteria: 1. Did a student formulate an appropriate research question grounded in economic theory? 2. Does the paper contain an adequate literature review? 3. Did a student design an appropriate quantitative model to study the research question? 4. Did the student employ appropriate data to test the hypothesis and interpret the findings correctly?		
Criteria for Student Success	At the end of the program, students should be able to perform on average at the level of Capstone (4) or Milestone (3) according to LEAP <i>Inquiry and Analysis</i> and <i>Quantitative Literacy</i> rubrics.		
Program Success Target for this Measurement	80% or more students should meet the criteria for student success outlined above	Percent of Program Achieving Target	65%
Methods	Direct artifacts were collected from the students in the ECON 497 senior assessment seminar. The data cover the entire population of Spring graduates. The papers were evaluated by three economics faculty on the four criteria listed above using a 1-4 scale for each criterion. The scores were assigned based on LEAP Inquiry and Analysis (IA) and Quantitative Literacy (QL) rubric items (1) Topic Selection [IA], (2) Existing Knowledge, Research and/or Views [IA], (3) Representation [QL], (4) Application/Analysis [QL]. Using this rubric, each evaluator produced an average score for each paper by computing a simple average of the four items of the rubric. Therefore, each paper received three scores – one from each evaluator – and the mean of these three score was computed for each student.		
Based on your results, highlight whether the program met the goal Student Learning Outcome 1.			☐ Met ☒ Not Met
Actions (Describe the decision-making process and actions for program improvement. The actions should include a timeline.) We're trending upwage, but still short of our goal. During the next cycle, we're shifting some element of ECON 465 (Regression and Econometrics), a course that synthesizes a lot of knowledge in the program. We believe those changes will help in this category.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.) During the next assessment cycle, we will continue to use the same instruments as they have provided us with useful information and allowed us to identify the areas that need improvement. During the next cycle, we're shifting some element of ECON 465 (Regression and Econometrics), a course that synthesizes a lot of knowledge in the program. We believe those changes will help in this category.			
Next Assessment Cycle Plan We plan to continue using the same assessment method as it yields consistent and informative data which allows us to track progress and make adjustments.			

Student Learning Outcome 2			
Student Learning Outcome	Students will demonstrate ability to convey their research findings using oral communication		
Measurement Instrument 1	DIRECT measures of student learning outcomes: Students in the Economics major (731) are required to complete a capstone course at the end of the program. During that course, students are required to write a paper and present it to the economics faculty. The presentations are structured as a mini-conference with each student giving a poster presentation. Each student is required to prepare a poster, deliver a brief summary of his or her paper, and answer follow-up questions. The presentations are evaluated on the following criteria: 1. Was the information organized well on the poster? 2. Did the student follow good practices when designing the poster? 3. Did the student present the material well?		
Criteria for Student Success	At the end of the program, students should be able to perform at the level of Capstone (4) or Milestone (3) according to LEAP <i>Oral Communication</i> rubric.		
Program Success Target for this Measurement	80% or more students should meet the criteria for student success outlined above	Percent of Program Achieving Target	90%
Methods	Students' presentations were rated on the three criteria listed above using a 1-4 scale for each criterion. The scores were assigned based on LEAP <i>Oral Communication</i> rubric items (1) Organization, (2) Supporting Material, (3) and Language. The rubric is attached below. Using this rubric, each evaluator produced an average score for each presentation by computing a simple average of the three items of the rubric, with each student receiving three scores – one from each evaluator – and the mean of these three score was computed was computed for each student.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.		☒ Met	☐ Not Met
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)			
The data reveal that during this assessment cycle, the program met the goal. All students demonstrated appropriate speaking skills during the presentation, poster design, and content inclusion. No immediate action is planned other than continuing to emphasize presentation skills in the Senior Assessment course.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)			
No changes are planned during the next assessment cycle.			
Next Assessment Cycle Plan			
We plan to continue using the same assessment method as it yields consistent and informative data which allows us to track progress and make adjustments.			

Student Learning Outcome 3			
Student Learning Outcome	Students will demonstrate knowledge of key principles of microeconomics.		
Measurement Instrument 1	DIRECT measures of student learning: Students in the Economics major (731) are required to complete a capstone course at the end of the program. During the course, students have to take two exams – a microeconomics exam and a macroeconomics exam. The exams used in the class have been developed by the National Council for Economic Education (NCEE). These exams were designed with two objectives in mind: “(1)... to offer a reliable and valid assessment instrument for students in principles of economics courses; and (2) to provide norming data for large national sample of students in principles classes...”. The exams cover a range of economic topics and can serve as a good measure not only of the attainment of knowledge in the principles courses but also as a measure of retention and reinforcement of that knowledge throughout the program.		
Criteria for Student Success	At the end of the program students should perform at the 70th percentile or higher compared to the national sample of economics principles students.		
Program Success Target for this Measurement	75% of the students	Percent of Program Achieving Target	84%
Methods	The test used as an instrument is the Test of Understanding of College Economics (TUCE), developed by NCEE in conjunction with the American Economic Association. The tests cover a range of topics normally covered in a microeconomics principles course as well as in the rest of the upper-level courses of a typical economics program. The test consists of 30 multiple-choice questions. Based on the national sample of more than 3,000 college and university students who took these tests, our scores land near the 70-th percentile. The tests were administered to all of the students in the senior assessment seminar.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.		☒ Met	☐ Not Met
Actions (Describe the decision-making process and actions for program improvement. The actions should include a timeline.)			
The students in the program are currently performing near the national average. We will continue to monitor performance during the next assessment cycle.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)			
Continue to monitor students' performance during the microeconomic exam.			
Next Assessment Cycle Plan (Please describe your assessment plan timetable for this outcome)			
No changes are planned in the assessment mechanism. The exam provides a consistent and robust tool for measuring student performance.			

Student Learning Outcome 4				
Student Learning Outcome	Students will demonstrate knowledge of key principles of macroeconomics.			
Measurement Instrument 1	DIRECT measures of student learning: Students in the Economics major (638) are required to complete a capstone course at the end of the program. During the course, students have to take two exams – a microeconomics exam and a macroeconomics exam. The exams used in the class have been developed by the National Council for Economic Education (NCEE). These exams were designed with two objectives in mind: “(1)... to offer a reliable and valid assessment instrument for students in principles of economics courses; and (2) to provide norming data for large national sample of students in principles classes...”. The exams cover a range of economic topics and can serve as a good measure not only of the attainment of knowledge in the principles courses but also as a measure of retention and reinforcement of that knowledge throughout the program.			
Criteria for Student Success	At the end of the program students should perform at the 70th percentile or higher compared to the national sample of economics principles students.			
Program Success Target for this Measurement	75% of the students	Percent of Program Achieving Target	84%	
Methods	The test used as an instrument is the Test of Understanding of College Economics (TUCE), developed by NCEE in conjunction with the American Economic Association. The tests cover a range of topics normally covered in a macroeconomics principles course as well as in the rest of the upper-level courses of a typical economics program. The test consists of 30 multiple-choice questions. Based on the national sample of more than 3,000 college and university students who took these tests the score of 16 is the 69th percentile and 17th is 74th percentile. The tests were administered to all of the students in the senior assessment seminar.			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.			☒ Met	☐ Not Met
Actions (Describe the decision-making process and actions for program improvement. The actions should include a timeline.)				
Students' performance was met the target, but just barely. We will continue to monitor performance during the next assessment cycle.				
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)				
Continue to monitor students' performance on the macroeconomic exam.				
Next Assessment Cycle Plan (Please describe your assessment plan timetable for this outcome)				
No changes are planned in the assessment mechanism. The exam provides a consistent and robust tool for measuring student performance.				

Rubric for SLO 1

	Capstone 4	Milestones		Benchmark 1
		3	2	
Topic selection <i>LEAP Inquiry and Analysis</i>	Identifies a creative, focused, and manageable topic that addresses potentially significant yet previously less-explored aspects of the topic.	Identifies a focused and manageable/doable topic that appropriately addresses relevant aspects of the topic.	Identifies a topic that while manageable/doable, is too narrowly focused and leaves out relevant aspects of the topic.	Identifies a topic that is far too general and wide-ranging as to be manageable and doable.
Existing Knowledge, Research, and/or Views <i>LEAP Inquiry and Analysis</i>	Synthesizes in-depth information from relevant sources representing various points of view/approaches.	Presents in-depth information from relevant sources representing various points of view/approaches.	Presents information from relevant sources representing limited points of view/approaches.	Presents information from irrelevant sources representing limited points of view/approaches.
Design Process <i>LEAP Inquiry and Analysis</i>	All elements of the methodology or theoretical framework are skillfully developed. Appropriate methodology or theoretical frameworks may be synthesized from across disciplines or from relevant subdisciplines.	Critical elements of the methodology or theoretical framework are appropriately developed, however, more subtle elements are ignored or unaccounted for.	Critical elements of the methodology or theoretical framework are missing, incorrectly developed, or unfocused.	Inquiry design demonstrates a misunderstanding of the methodology or theoretical framework.
Analysis <i>LEAP Inquiry and Analysis</i>	Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to focus.	Organizes evidence to reveal important patterns, differences, or similarities related to focus.	Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities.	Lists evidence, but it is not organized and/or is unrelated to focus.

Rubric for SLO 2

	Capstone 4	Milestones		Benchmark 1
		3	2	
Organization <i>LEAP Oral Communication</i>	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable and is skillful and makes the content of the presentation cohesive.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is intermittently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is not observable within the presentation.
Language <i>LEAP Oral Communication</i>	Language choices are imaginative, memorable, and compelling, and enhance the effectiveness of the presentation. Language in presentation is appropriate to audience.	Language choices are thoughtful and generally support the effectiveness of the presentation. Language in presentation is appropriate to audience.	Language choices are mundane and commonplace and partially support the effectiveness of the presentation. Language in presentation is appropriate to audience.	Language choices are unclear and minimally support the effectiveness of the presentation. Language in presentation is not appropriate to audience.
Supporting Material <i>LEAP Oral Communication</i>	A variety of types of supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that significantly supports the presentation or establishes the presenter's credibility/authority on the topic.	Supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that generally supports the presentation or establishes the presenter's credibility/authority on the topic.	Supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that partially supports the presentation or establishes the presenter's credibility/authority on the topic.	Insufficient supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make reference to information or analysis that minimally supports the presentation or establishes the presenter's credibility/authority on the topic.

Program: MATHEMATICAL ECONOMICS

Curriculum Map Matrix

(Where are PLOs Introduced, Developed, and Mastered)?

	<i>Econ 202: Princ. of Micro.</i>	<i>Econ 203: Princ. of Macro.</i>	<i>Econ 206: Statistics</i>	<i>Econ 302: Int. Micro.</i>	<i>Econ 303: Int. Macro.</i>	<i>Econ 464: Math. Econ.</i>	<i>Econ 465: Regression</i>	<i>Econ 499: Senior Asses:</i>
<i>1:</i> Students will strate their ability y mathematical ; to study economi ns.			<i>I</i>	<i>I</i>	<i>I</i>	<i>D M</i>	<i>D M</i>	
<i>2:</i> Students will strate ability to nicate research s through <u>written</u> nication.							<i>I D</i>	<i>M</i>
<i>3:</i> Students will strate ability to research s using <u>oral</u> nication.							<i>I</i>	<i>D M</i>
<i>4:</i> Students will strate knowledge principles of conomics.	<i>I</i>			<i>D M</i>				
<i>5:</i> Students will strate knowledge principles of conomics.		<i>I</i>		<i>D M</i>				