

**Globalizing an Economics Curriculum  
W. A. Franke College of Business**

**Final Report – October 2010**

**INTRODUCTION**

This report describes how the Economics Team has responded to a university-wide call to develop a curriculum strategy to address the elements identified in the three core University Thematic Student Learning Outcomes.

- Global Engagement
- Environmental Sustainability
- Diversity

Our proposal was one of several across the campus that emerged in response to the recommendations of the *NAU Steering Committee for the Implementation of the Global Learning Recommendations* that were adopted by the Faculty Senate in January 19, 2010. ([http://international.nau.edu/pdf/global\\_learning\\_legislation.pdf](http://international.nau.edu/pdf/global_learning_legislation.pdf))

Our proposal was submitted and funded in May 2010 and is included in this report as *Appendix A*. The economics team included Ronald Gunderson, Ph.D. Professor of Economics and Dean Smith, Ph.D. Professor of Economics.

**LEARNING OUTCOMES SPECIFIC TO THE ECONOMICS MAJOR**

The proposal outlined here is expected to form the basis for the restructure and redesign of the existing curricula for the following degree programs:

- Bachelor of Business Economics (College of Business)
- B. S. Extended Major in Economics  
(College of Social and Behavioral Sciences)

The proposed revisions to these degree programs are designed to provide each of our majors with a theoretical and practical foundation to prosper in the global business environment in the 21<sup>st</sup> century.

Upon completion of the Economics major, our students will have experienced numerous exposures to global engagement, sustainability and diversity in the global economy.

The learning outcomes addressed within this proposal nicely fit within the broader goals of the two economics degree programs. These learning objectives will enable our graduates to:

- Explain core concepts and theories that provide the foundations to critically evaluate economic thinking in topics pertaining to global engagement, sustainability and diversity in the global economy.
- Combine economic theory with numerical analysis to formulate policy in these areas.
- Apply critical thinking to compare and contrast competing viewpoints on these topics including a respect for diversity among cultures.

## **DEVELOPMENT OF THE CURRICULUM STRATEGY**

During the summer months, the team evaluated various approaches to derive a strategy for incorporating the three global learning objectives into our degree programs.

Our initial strategy was to undertake an assessment of the master syllabi for each of our existing courses to determine how we might successfully enhance or incorporate exposure to these topics in each of our major courses. All our major courses address at least one of the above criteria with the exception of our three purely statistics-based course offerings. A revised syllabus for each course has been completed and was presented to the Area Faculty for review and discussion in late August. The initial report was favorably received by all members of the Economics Area Faculty.

The Area faculty also reviewed all of our master syllabi along with an aggregated matrix that identifies the coverage of each of the learning objectives across all courses. The matrix enables us to identify deficiencies and redundancies across the curriculum. The matrix is included as part of this report as Appendix B.

As a part of this process, we will move to delete some courses from the existing curriculum and to replace them with other courses that more directly engage the students in the globalization topics. This matrix also provides the template to ensure that any remaining gaps in topic coverage are addressed either by relevant co-curricular activities, liberal studies courses, interdisciplinary activities, or internships and/or study abroad programs that address the global, sustainable and diversity themes in the global arena.

Three new courses have been designed, and have met the approval of the Economics faculty. ECO 424 Natural Resources and Climate Change is a senior level course following ECO 324 (currently 325 but will be renumbered), ECO 428 Advanced Energy Economics is a senior level course to follow ECO 328. ECO 456 Economic Development and ECO 481 Public Choice are new courses.

Both of the economics programs have been reformulated. The BSBA has an expanded requirement of economics courses and students will select from one of three “emphasis” areas: General Economics, Global Economics and Environmental Economics. The SBS degree has undergone substantial change. The extended major has been replaced by a basic BS with a minor requirement. Students in this program will actually take more economics classes and will also emphasize one of the three tracks listed above.

During this past summer, a separate team representing all disciplines within the W. A. Franke College of Business worked to complete a Global Initiative Curriculum Strategy for all content areas within the Business disciplines. As a result, many of the non-course specific encounters identified by the overall Business Team will also apply to students pursuing the BSBA in Economics, and several of these items are proposed for extension to students completing the B.S. in Economics as well. These items are addressed later in this report.

## **TOOLS FOR ASSESSING SUCCESS IN MEETING THE GLOBAL OBJECTIVES**

Assessment of student learning is a critical element in measuring the level of achievement with respect to the learning outcomes. We envision employing a multi-dimensional approach to measure student performance. This approach builds upon our already existing annual internal assessment program review of the economics major that is used to validate the underlying foundation and currency of our curriculum.

In previous years, our program assessment utilized course-embedded questions in multiple exams in the two intermediate economic theory courses required of all students completing either of our economics degree programs. In future years, we intend to supplement this technique with the addition of indirect assessment measures designed to monitor student achievement. Initially, this will involve designing and implementing a senior survey to obtain input from our exiting graduates each semester in order to obtain their feedback on the program and the learning outcomes. The Area faculty as a whole will evaluate the results of the survey in order to provide a basis for continuing improvement over time. A copy of the proposed assessment instrument is included here as Appendix C.

An additional component of our assessment process will be added as well in order to measure student performance on global, sustainable and diversity dimensions. We have completed a new rubric to evaluate performance on several specific criteria derived from the learning outcomes. We are including performance measures that identify specific tasks required of students that enable the faculty to determine whether or not each student (a) Exceeds (b) Meets or (c) Does Not Meet, expectations for each dimension in the rubric (See Appendix D). The Economics programs have a long history of productive assessment. The faculty members have been university leaders in our assessment efforts and our degree programs have received the Seal of Assessment Achievement each year the program has been reviewed.

The tangible outcomes of the work generated by the economics team resulted in a proposal for curricular revisions to both economics degree programs for the new catalog. These include:

- Revisions to all course syllabi have undergone full review by the entire Area faculty.
- A program matrix that shows topic coverage across the economics curriculum on coverage of topics that address global engagement, diversity and environmental sustainability has been completed.
- Identification of criteria for inclusion in assessment process that will enable us to determine whether student performance on these dimensions has exceeded, met, or failed to meet expectations in these topic areas.
- A survey instrument designed to gather information from graduating students regarding their performance and assessment of the economics program they completed.

## **INCORPORATING THE LEARNING OUTCOMES INTO THE CURRICULUM**

The global learning objectives adopted by the Faculty Senate in January 2010, and identified in the document *“Recommendations of the Global Learning Subcommittee of the Task Force on Global Education”* served as the starting point for the Economics Team. Using this document as a guide, the Economics Team defined the three global learning objectives as they apply to economics majors. We then identified a list of issues that expand and elaborate on the primary objectives. This list is not comprehensive, and we expect that, over time, the list will be modified and expanded.

Student learning in the economics programs will occur within the context of global engagement, diversity and sustainability in numerous ways. The items listed below represent a compilation of the relevant course objectives listed in the Master Syllabi from each of the Economics courses that address one or more of these objectives:

### ECO 284 – Principles of Microeconomics

- Explain the theory of labor markets and the issues of discrimination and cultural diversity on income distributions. (Diversity)
- Explain the theory of environmental externalities and other forms of market failures. (Sustainability)
- Explain the concept of comparative advantage and apply it to issues in international trade. (Global Awareness)

### ECO 285 – Principles of Macroeconomics

- Describe the determinants of economic growth (Global and sustainability)
- Explain the basis of international trade. (Global awareness)

### ECO 324 – Environmental Economics

- Develop an understanding of the environmental issues resulting from economic activity. (Global and sustainability)
- Understand how these issues are relatively new to the human experience and to appreciate the normative aspects of the issues. (Global and sustainability)
- Develop an understanding of the theory of and behind the various schools of thought regarding environmental economics. (Global, sustainability and diversity)
- Focus on the major United States environmental policies and the effects of those policies on both the environmental and economic well-being of society. (Sustainability)

### ECO 328 – Energy Economics and Policy

- Explain the energy issues resulting from human energy conversion. (Global, sustainability and diversity)
- Explain issues influencing the human experience and to appreciate the normative aspects of the issues relating to energy conversion.
- Explain a cognizance of the costs and benefits of various types of energy conversion. (Global, sustainability and diversity)
- Demonstrate an understanding of the economic and social consequences stemming from climate change. (Global, sustainability and diversity)
- Demonstrate an understanding of the alternative futures of energy markets and policies. (Global, sustainability and diversity)

### ECO 356 – Regional and Urban Economics

- Demonstrate a firm understanding of the major issues in regional science. (Sustainability, Diversity)
- Apply basic economic fundamentals to regional economic questions. (Sustainability)
- Demonstrate a basic understanding of urban issues including transportation systems and land-use planning. (Sustainability, Diversity)

### ECO 384 – Intermediate Microeconomics

- The market consequences of and policy options due to market failure in general and externalities in specific. (Sustainability)

### ECO 385 – Intermediate Macroeconomics

- Determine the effects that foreign trade has on the domestic economy (Globalization, Sustainability)

## ECO 424 – Climate Change

- Develop an understanding of the environmental and social issues resulting from economic activity concerning natural resources: exhaustible and renewable. (Global, sustainability and diversity)
- Understand how these issues are relatively new to the human experience and to appreciate the normative aspects of the issues. (Global, sustainability and diversity)
- Develop an understanding of the theories of measurement and valuation in non-market scenarios. (Global and sustainability)
- Demonstrate optimal extraction processes and sustainable harvesting methods. (Global and sustainability)
- Demonstrate an understanding of the environmental justice issues of natural resource use across time and space. (Global, sustainability and diversity)

## ECO 428 – Advanced Energy

- To develop an understanding of the energy issues resulting from human conversion. (Global, sustainability and diversity)
- To develop a cognizance of the costs and benefits of various types of energy conversion and the markets thereof. (Global and sustainability)

## ECO 456 – Economic Development

- Understand and discuss the question of economic development and its historical trends in the US and globally (Global, sustainability and diversity)
- Understand Classical and Contemporary Models of Growth and Development (Global, sustainability and diversity)
- Explain the impacts of poverty, population growth, urbanization and rural urban migration (Global, sustainability and diversity)
- Understand and be able to explain the roles and impacts of human capital in the context of economic development (Sustainability and diversity)
- Understand and explain issues pertaining to the environment in the context of economic development (Global, sustainability and diversity)
- Understand and be able to explain policymaking and role of markets in providing solutions to the above issues. (Global, sustainability and diversity)
- Explain the roles played by international trade theory in building development strategies. (Global and sustainability)

### ECO 464 – Labor Economics

- Labor supply; dual earner households; human capital investment; education, training, retirement, volunteerism. (Global, Diversity)
- Labor demand; recruitment, retention, contingent labor force, downsizing. (Diversity)
- Compensation; wage determination; executive pay; benefits (health care, workers' compensation pensions). (Diversity)
- Empirical evidence and manifestation of success or failure of labor economic and human resource policies; discrimination. (Diversity)
- Work-life balance; diversity initiatives; harassment policies; health and safety on job; international labor standards; expatriates; drugs and violence in workplace; employment laws. (Global, Diversity)
- Spirituality and religion in workplace. (Diversity)

### ECO 473 – Money and Banking

- Describe the role of money and financial markets, institutions, and instruments in a market economy. (Global)
- Describe the function of foreign exchange markets and explain their operation using supply and demand analysis. (Global)

### ECO 481 – Public Choice

- An ability to analyze political decisions from a perspective of rent-seeking behavior (Sustainability)
- An understanding of how constitutional structure impacts the extent of government failure (Sustainability)

### ECO 486 – International Economics

- Understand the various sources of comparative advantage (i.e. production based vs. consumption based) and their implications for the patterns and direction of trade. (Global)
- Have an overview of trade policy in order to place current debates and issues surrounding US trade policy. (Global)
- Understand the implications of the various arrangements that facilitate global trade and the impact of exchange rates and exchange rate regimes on trade. (Global)
- Be able to analyze the impact of global capital on world trade and welfare as well as the impact of various domestic macroeconomic policies on trade. (Global)
- Understand the role and importance of domestic government and institutions in a global economy. (Global)

## **LIBERAL STUDIES ENCOUNTERS**

Students enrolled in the Economics programs will fulfill the NAU Liberal Studies requirements. The content in the Liberal Studies courses will complement the exposures students receive in their major courses and strengthen their knowledge in these fields.

The Principles to Guide the Development of Student Learning Outcomes are:

- To understand natural processes and the fragility of the earth's environment.
- To understand the world's peoples and their diversity.
- To understand the traditions and legacies that have created the dynamics and tensions that shape the world.
- To understand the potential for and limitations of technology to enhance human and other life.
- To act upon the individual's responsibilities and connections to local, national, and global communities and environments.
- To practice the habits of an examined or self-reflective life to facilitate ethical and responsible living.

## **CO-CURRICULAR ENCOUNTERS**

Co-Curricular encounters also constitute an important part of the students' overall learning experiences. Students completing the Business Economics program are automatically included in the co-curricular activities required of all FCB students while students in the SBS Economics program will also benefit from encounters delivered through the FCB pre-business courses (ACC 205, ACC 255, ACC 256, ECO 285, and MGT 101), which many will complete, as well as through completion of the FCB co-curricular Pathways and the W. A. Franke Speaker Series encounters that are open to students of all majors. These items can be incorporated into the specific requirements of the SBS Economics students' curricular program requirements.



**Appendix A**  
**Globalizing an Economics Curriculum**  
**Implementing the Global Learning Recommendations**

**Academic Area: Economics**

**Task:**

We propose to restructure and redesign the existing program in Business Economics as well as the Extended Major in Economics (SBS) to reflect the newly adopted Global Learning Recommendations (GLR). We anticipate the outcomes reflected in the revised program will provide our students with the theoretical and practical foundations to prosper in the global business environment in the 21<sup>st</sup> century. The curricular strategy presented in this proposal offers a brief sketch regarding how we propose to ensure that the three global learning themes (global engagement, environmental sustainability and diversity) are deeply embedded within the major, and a description of how the new offering incorporates multiple opportunities for our students to encounter the experiences envisioned by NAU's global learning initiative.

**Project Team:** Ronald Gunderson, Professor of Economics & Area Coordinator; and Dean Howard Smith, Professor of Economics and Applied Indigenous Studies, Director of Business and Policy Programs Sustainable Energy Solutions (SES).

Members of the Economics faculty look forward to incorporating these changes into the major and formalizing what many of us have already included in individual courses. The new major not only increases the global emphasis, but also ensures that the experiences of all our majors will include active participation in the learning outcomes envisioned by this program.

**Current Assessment:** Over the past six years, we have successfully completed an annual internal assessment of our major program guided by the directions of NAU's Office of Academic Assessment. We have further validated the underlying foundation and currency of our curriculum based upon the external assessment as part of our recent FCB accreditation by the Association to Advance Collegiate Schools of Business (AACSB). The AACSB validation incorporates the themes of "Global and Environmental Awareness," and "Multicultural and Diversity Understanding." However, we can incorporate numerous changes along these dimensions in order to enhance our students' understanding of current economic issues. At this time we have begun to consider adding indirect assessment measures to monitor student achievement on the learning outcomes.

**Proposed Activities:** The initial phase of the redesign proposal will involve an assessment of the master syllabus from each of our existing courses with respect to the GLR. As an example, the ECO 284 course includes the learning objective: "*Explain the theory of environmental externalities and other forms of market failures.*" This objective could be rephrased to specifically include a discussion of economic sustainability. Each master syllabus currently includes a matrix that demonstrates how we address the AACSB themes mentioned above. The initial phase of the curriculum redesign will result in the development of a new matrix for each course that addresses the GLR.

## **Economics Proposal**

### **Page 2**

Upon revision of the individual course matrices, an aggregated matrix will be generated to provide an overall assessment of the existing courses in the major. This aggregated matrix will assist us to identify deficiencies and redundancies across the curriculum. This will provide us with ideas for possible new initiatives as well as new courses to replace others that no longer may be needed. Furthermore, this will provide the template that allows us to fill the remaining gaps in the aggregate matrix with relevant co-curricular activities, interdisciplinary activities with the rapidly emerging environmental and sustainable programs on campus or perhaps community-based initiatives to include the environmental and diversity themes. The identification and evaluation of alternative strategies will comprise a significant portion of the time spent during the period funded by this Call for Proposals.

Finally, as a means to demonstrate how we propose to build upon some of the global experiences we already offer, we offer a brief description of possible changes to some of our courses with the understanding that the detailed vision may be altered by the design process.

ECO 325, Environmental Economics, is an introductory course that addresses environmental issues. It is offered at the junior level; however, the economics faculty feel that a second course offered at the 400-level would permit us to develop the technical tools of our graduates to better expose them to environmental sustainability outcomes envisioned by the GLR. This new course, perhaps named “Natural Resources and Climate Change” would include a more technical curriculum to include measurement, estimation and valuation techniques. Topics specifically targeting the GLR will include: Sustainability and Environmental Justice, Intertemporal Decisions, and Interspatial Decisions.

ECO 328, The Political Economy of Energy, is a recent addition to our curriculum that also provides a strong introduction to energy markets and policy. A second course in energy economics offered at the 400-level is envisioned as a practicum course to complete projects such as those undertaken by undergraduate (and graduate) students participating in NAU’s Sustainable Energy Solutions (SES) offerings. A new course would formalize the secondary and primary research experiences (usually followed by publication) of numerous students in recent years working on SES projects – all of which meet the GLR.

The globalization of markets, the expansion of the World Trade Organization (WTO) and the intertwining of monetary and legal systems across the world also provide numerous opportunities to revise and enhance our courses to address the global framework and the diversity that supports it in order to provide our students with increased exposure in these fields. We anticipate a complete review of our existing curriculum will permit us to offer the new curriculum with the existing number of faculty resources available in the academic area.



## **Memorandum**

**TO:           The Steering Committee for the implementation of the Global Learning Recommendations  
The Center for International Education  
The Office of the Associate Vice President for Diversity**

**FROM:       Associate Dean Eric Yordy**

**DATE:        May 3, 2010**

**RE:           Implementation of the Global Learning Recommendations**

---

The Call for Proposals for the implementation of the Global Learning Recommendations required a “statement from the academic unit head to commit on behalf of the academic unit support for the designated team’s development of a curriculum strategy for the academic unit to incorporate the global learning outcomes, confirm that the academic unit will review the draft strategy within the first five weeks of the Fall 2010 semester, agree that the academic unit will adopt a final strategy document by November 30, 2010, and commit that the global learning strategy will be incorporated into the academic unit’s strategic plan.”

As Associate Dean of The W. A. Franke College of Business (FCB), I have consulted with Dean Chopin and we commit support for the effort to infuse the three principles of the global learning initiative (Diversity, Sustainability and Globalization) in to the Economics curriculum within The W. A. Franke College of Business. The area, under the leadership of Dr. Ron Gunderson, will present any curricular changes to the college curriculum committee during the fall term and will incorporate those changes in the assessment plan for that area. Because our areas do not have individual strategic plans, the area assessment plans basically serve as the strategic plan for the area. The Economics area will incorporate any new or revised learning outcomes in to that assessment plan for formal assessment and report to the university. The FCB does include global awareness within the strategic plan and we will review that strategic plan to determine if it is appropriate to include specific items related to the revised Economics degree program.

## **Additional Letter of Support---**

**Please note that the Economics degree programs are offered through two colleges – Both the W. A. Franke School of Business and the College of Social and Behavioral Sciences.**

**The Associate Deans for each college have communicated with each other, and I have attached the correspondence here that adds SBS support to the project along with the Business School letter from the previous page.**

(Ron Gunderson)

**From:** William H Huffman

**Sent:** Friday, April 30, 2010 3:23 PM

**To:** Eric D Yordy

**Subject:** Economics Proposal for Global Learning Recommendations

Eric,

I have reviewed the proposal for incorporating the global learning recommendations in the courses leading to a major in Business Economics as well as the (SBS) Extended Major in Economics. I believe the project will promote student learning and provide them with a much stronger foundation to operate in a global environment. I support the proposed project of reviewing and revising the Economic courses to more thoroughly incorporate the global learning recommendations.

William Huffman, Ph.D. NCC

Associate Dean

College of Social and Behavioral Sciences

928-523-9508

Fax: 928-523-7185

## Appendix B Initial Course Matrix for Globalization Dimensions

Each "X" indicates the topic in the column heading is addressed in the course and its coverage is indicated in the course learning outcomes of the master syllabus for each course

Economics Course	Learning Objectives	Global Engagement	Environmental Sustainability	Diversity
<b>284 Principles of Micro</b>				
	1 Supply & Demand			
	2 Competition			
	3 Elasticity Concepts			
	4 Production & Costs			
	5 MR=MC			
	6 Market Structure			
	7 Input Demand			
	8 Income Distribution			X
	9 Externalities		X	
	10 Comparative Advantage	X		
<b>285 Principles of Macro</b>				
	1 Agg Supply/Demand			
	2 Business Cycles			
	3 Fiscal & Monetary Policy			
	4 Competing Theories			
	5 Economic Growth		X	
	6 International Trade	X		
<b>325 Environmental</b>				
	1 Human to Environment	X	X	
	2 Environment to Human	X	X	
	3 Schools of Thought	X	X	X
	4 Policy and Outcomes		X	X
<b>328 Energy Economics and Policy</b>				
	1 Energy Issues	X	X	
	2 Human Consequences	X	X	X
	3 Types of Energy	X	X	

<b>Economics Course</b>	<b>Learning Objectives</b>	<b>Global Engagement</b>	<b>Environmental Sustainability</b>	<b>Diversity</b>
<b>356 Regional &amp; Urban</b>	1 Regional Science Issues		X	X
	2 Regional Fundamentals		X	
	3 Location Decisions			
	4 Central Place			
	5 Economic Base			
	6 Shift-Share			
	7 Urban Issues/land use		X	X
<b>384 Intermediate Micro</b>	1 Demand Theory			
	2 Cost Theory			
	3 Market Structures			
	4 Input Markets			
	5 Non-market Solutions		X	
<b>385 Intermediate Macro</b>	1 Agg Supply/Agg Demand			
	2 Stability	X		
	3 Effectiveness of Policies			
	4 Effects of Foreign Trade	X		
	5 Formulation & Solving			
<b>424 Climate Change</b>				
<b>NEW</b>	1 Human to environment	X	X	
	2 environment to human	X	X	X
	3 measuring and valuing	X	X	X
	4 extraction and harvests	X	X	
	5 environmental justice	X	X	X
<b>428 Adv. Energy</b>				
<b>NEW</b>	Energy Conversion	X	X	X
	Energy Markets	X	X	
	Analytical tools			
	Writing skills			

<b>Economics Course</b>	<b>Learning Objectives</b>	<b>Global Engagement</b>	<b>Environmental Sustainability</b>	<b>Diversity</b>
<b>456 Development</b> <b>NEW</b>	Historical & Contemporary Model of Development	X	X	X
	Poverty/Urbanization/Migration	X	X	X
	Environment & Development	X	X	X
	Policymaking/Trade	X	X	X
<b>464 Labor</b>	1 Labor Theory			
	2 Labor Supply/Human Inv	X		X
	3 Labor Demand/Recruitment			X
	4 Workforce Planning			
	5 Compensation			X
	6 Success,Failure,Discrimination			X
	7 Diversity Initiatives	X		X
	8 Legislative Agendas			
	9 Spirit/Religion in Workplace			X
<b>473 Money &amp; Banking</b>	Money/Institutions/Roles	X		
	Money/Inflation/Interest			
	Value of Money & Assets			
	Interest Rate Theory			
	Foreign Exchange Markets	X		
	Federal Reserve System			
	Demand/Supply of Money			
	Monetary Theories			
<b>486 International</b>	Sources of Comp Advantage	X		
	Trade Policies	X	X	X
	Exchange Rates/Policies	X		
	Global Capital Impacts	X	X	X
	Government & Institutions	X		

481 Public Choice

**NEW**

Government/Collective Choice			X
Rent Seeking Behavior			X
Voting Systems			X
Private/Public Provision of G&S		X	X

497 Senior Seminar

Revise course to include the global elements as general focus	X	X	X
---	---	---	---



**Appendix C**  
**Assessment for Global Engagement, Sustainability and Diversity**

Program Outcome:	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations
Global Issues: Explain the concept of comparative advantage and apply it to issues in international trade.	Given a problem, the student is able to determine a country's comparative advantage as well as identify the boundaries of the terms of trade that result from specialization, and correctly interpret the results.	Given a problem, the student is generally able to determine a country's comparative advantage as well as identify the boundaries of the terms of trade that result from specialization, and generally interpret the results with only minor errors.	Given a problem, the student is unable to correctly determine a country's comparative advantage or is unable to identify the boundaries of the terms of trade that result from specialization, or to correctly interpret the results.

Program Outcome:	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations
Sustainability: Describe the consequences of market failure as related to the use of exhaustible resources	The student is able to accurately apply economic theory to demonstrate how the market sometimes fails to correctly allocate resources in the presence of externalities. The student also can provide an accurate analysis of the outcome.	The student is generally able to apply economic theory to demonstrate how the market sometimes fails to correctly allocate resources in the presence of externalities. The student also can generally interpret the results with only minor errors.	The student is unable to accurately apply economic theory to demonstrate how the market sometimes fails to correctly allocate resources in the presence of externalities. The student can provide only a limited or incorrect analysis of the outcome.

**Appendix C - Continued**  
**Economics Global Assessment Measures**  
**Page 2**

Program Outcome:	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations
<p>Diversity:            Demonstrate an understanding of the environmental and social justice issues of resource use across time and space.</p>	<p>The student is able to thoroughly discuss alternative income distribution outcomes across time and space and apply them to diverse economic situations in topics related to resource use under various market and non-market situations.</p>	<p>The student is generally able to discuss alternative income distribution outcomes across time and space and apply them to diverse economic situations in topics related to resource use under various market and non-market situations with only minor errors in interpretation.</p>	<p>The student is unable or only slightly able to discuss alternative income distribution outcomes across time and space and apply them to diverse economic situations in topics related to resource use under various market and non-market situations.</p>

**Appendix D**  
**Questionnaire to Administer in ECO 498C Graduating Students in Economics**

Strongly  
Agree      Agree      Disagree      Strongly  
Disagree

1. I was satisfied with the instruction I received in the economics program
2. I have a better understanding of microeconomic and macroeconomic theory today than I did when I began the program
3. I have a better understanding of the place of global economic activity in our day-to-day activities than I did when I began the program
4. I can explain core concepts and theories to critically evaluate markets and market structures in the global economy
5. I can use economic theory and numerical analysis to evaluate policy in global engagement
6. I can use economic theory and numerical analysis to evaluate policy in environmental sustainability
7. I can use economic theory and numerical analysis to evaluate policy in global diversity
8. I can critically compare and contrast competing viewpoints on the topics related to global engagement
9. I can critically compare and contrast competing viewpoints on the topics related to environmental sustainability
10. I can critically compare and contrast competing viewpoints on the topics related to global diversity
11. I am a more effective communicator today than when I entered the program
12. The projects I undertook during the program played an important part in my intellectual exploration
13. I would recommend NAU's Economics program to other students
14. I have a better understanding today of the role of economics in society, than I did when I began the program
15. What other comments or suggestions would you like to make concerning the economics program?

---

---

---

---

---