

Assessment Plan

**Department of Economics
Richard T. Doermer School of Business and Management Sciences
Indiana - Purdue University - Fort Wayne**

**Programs covered:
BA Major in Economics
BSB Concentration in Economics**

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Summary

The Department of Economics currently offers a Bachelor of Arts major in Economics and a concentration in Economics in the Bachelor of Science in Business. The core departmental requirements for these two majors are the same. The program assessment for the two majors will be consolidated and will focus on assessment of the common core. The Department will not assess the minor independently.

The Department will separate its program assessment into (a) the assessment of three core knowledge areas and (b) the assessment of critical thinking and effective presentation skills in economics. For the three identified core knowledge areas in statistics, microeconomics, and macroeconomics, the Department will combine annual departmental assessments of student class performance in core courses with administration of nationally-normed tests. Assessment of critical thinking skills is much more difficult, but essential. The economics profession emphasizes the importance of writing to the development and application of critical thinking and presentation skills (see Hansen 1986, 2001). The department will assess student projects from a newly-implemented capstone course to assess these critical thinking and written presentation skills.

Table 1 provides a mapping of the identified skills onto the curriculum. Table 2 summarizes the assessment approaches for individual skills. Tables 3A to 3D present the scaling rubrics for assessment of course exams and portfolios.

A set of milestones for assessment appears at the end of the document. The Department will implement departmental evaluation of microeconomic and macroeconomic performance in Fall 2006 and Spring 2007, respectively. The Department will use Doermer School-administered ETS testing to evaluate statistical skills in 2007. The Department will add a capstone course in Spring 2008. In that capstone course, the Department will administer the nationally-normed Test of Understanding of College Economics (TUCE) and use that data to benchmark performance of senior majors for microeconomic and macroeconomic skills. The major research project from the capstone will be assessed to evaluate critical thinking and writing skills. In 2007-2008, the Department will also implement course-based assessment of the statistics skills of majors.

Context for Assessment: Learning Objectives for Students

The Department of Economics provides a concentration in Economics within the Doermer School of Business and Management Sciences and a major in Economics in the College of Arts and Sciences.

The five core learning objectives of the Doermer School of Business and Management Sciences are:

DS1. Understand and be able to integrate fundamental principles of business theory and practice in a dynamic environment.

DS2. Have the analytical skills necessary for sound business decisions. Understand the global, ethical, and cultural implications of business decisions.

DS3. Be able to understand the relationship between the macro environment and business.

DS4. Be able to demonstrate effective communication and appreciate the role and importance of teamwork.

DS5. Be prepared for lifelong learning.

The College of Arts and Sciences has the following learning objectives:

AS1. The graduates of its baccalaureate programs should have the knowledge and awareness that will enable them to be effective citizens and lifelong learners.

AS2. Baccalaureate graduates are expected to have a working understanding of the knowledge and methodology appropriate for their discipline. They should be aware of the major issues in their field and communicate field-content effectively. And they should be aware of the means for continued study in or practice of the discipline.

AS3. They should also have an understanding of the traditions of Western culture and familiarity with a non-Western culture; grasp the principles of knowledge in the sciences, the social sciences, and the humanities; and have at least basic fluency in a foreign language. They are expected to use oral and written language with critical intelligence and persuasiveness, and to understand the fundamentals of college-level mathematics.

Congruent with these school/college learning objectives, the Department of Economics has three learning objectives for its majors. Students with a major/concentration in Economics are expected to:

1. Apply concepts, principles, and techniques of economics and financial analysis to decision-making, including issues of economic and public policy, both domestic and global. (This learning objective complements school/college learning objectives DS1, DS2, DS3, and AS2.)

2. Effectively communicate economic and financial issues with specialists and non-specialists. (This learning objective complements school/college learning objectives DS4 and AS3.)

3. Access the information necessary for remaining current and for conducting research in economics. (This learning objective complements school/college learning objectives DS5, AS1, and AS2.)

Assessment of Core Knowledge in Statistics, Microeconomics, and Macroeconomics

There is broad uniformity for core requirements in undergraduate economics degrees, which reflects broad national and international agreement among economists about the core skills. The core curriculum in economics at most undergraduate programs includes: a two-semester (occasionally one-semester) sequence in introduction to microeconomics and macroeconomics; some type of basic statistics course; intermediate microeconomics; and intermediate macroeconomics. The content of these courses, as reflected in the textbooks used, has a high level of standardization. The curriculum for both the BA major in economics and the BSB concentration in Economics includes these five courses. As the intermediate micro/macro courses are extensions of the introductory courses, assessment can be limited to statistics, intermediate microeconomics, and intermediate macroeconomics.

The Department has identified specific skill sets within each of the three areas (which are also reflected in the curriculum map in Table 1):

Statistics

- A. Conduct and interpret basic statistical hypothesis tests about population means.
- B. Interpret regression results and conduct and present basic regression analysis.
- C. Gather data, interpret data, and present socioeconomic data in the context of business and policy applications of economics.

Components A and B are taught in E270, while component C is reflected across the curriculum.

Microeconomics

- A. Apply marginal analysis to a wide array of economic analyses. The student should have a high degree of knowledge of the application of marginal analysis to the theory of the firm and the theory of the consumer.
- B. Analyze markets, market structure, and market performance by applying basic concepts of welfare economics.

This material is taught in E321, Intermediate Microeconomics, and reinforced in applied area courses.

Macroeconomics

A. Present and apply the core models of macroeconomics, including the Keynesian cross and ISLM model.

B. Connect macroeconomic theory to the conduct of domestic fiscal and monetary policy.

This material is taught in E322, Intermediate Macroeconomics, and developed to greater depth in some applied area courses.

The strategy of the Department to evaluate this core curriculum is to (a) directly assess the level of competence demonstrated in course exams and (b) administer nationally-normed tests as benchmarks.

The Department Assessment Committee will review student exam performance in E270, E321, and E322 to assess student acquisition of core skills. The Assessment Committee will work with instructors in these courses to identify specific exam questions or assignments that will be evaluated. The objective is to identify exam questions or assignments that will reveal specific student acquisition of skills identified above. Only the performance of economics majors in these courses will be evaluated. Each member of the Assessment Committee will independently assess the course materials and rate each student's material using the scoring rubrics presented in Tables 3A, 3B, and 3C.

The Doermer School of Business currently administers a nationally-normed ETS business test, which includes assessments of quantitative skills for all students. This test is administered in the senior-level, school-wide capstone course. The Department will use the results from that test as a basis for assessing the statistical skills of BSB students with an economics concentration. For microeconomic and macroeconomic skills, the Department will use the Test of Understanding of College Economics (TUCE) test. That test will be administered to all seniors in a new capstone course, to start in Spring 2008.

Assessment of Critical Thinking and Presentation Skills

Economics is fundamentally about developing a way of thinking about certain types of social issues and questions. A student who simply learns how to restate the exemplars of analysis presented in intermediate microeconomics and intermediate macroeconomics would not meet the expectations of the discipline. A student trained in undergraduate economics should be able to examine a public policy issue from an economic perspective and to apply basic ideas of microeconomics and macroeconomics to the issue. This emphasis on analysis, critical thinking, and effective presentation is reflected in published work on undergraduate economics education, such as Hansen (1986, 2001).

Undergraduate economics students are typically expected to learn the application of economic analysis in applied area courses, such as labor economics, public finance, monetary policy, and international trade and finance. Each of these courses includes material on how to gather appropriate economic data, how to apply microeconomic and macroeconomic analysis to the topic, and what is the current economic understanding of the issue. While research papers are not always required in these area courses, such a paper would be typical. As a student in a typical economics major might take 3 to 6 applied area courses, students might be expected to

have several opportunities to expand their ability to apply economics.

Unfortunately, there are several potential problems with reliance on area courses as the only vehicle for development of critical thinking and presentation skills. First, the BSB students currently are required to take only two applied area courses. Second, students can often choose area courses that do not require papers. Third, at programs such as IPFW, area courses are often taught with only introduction to economics as prerequisites. This is because these area courses must often serve non-majors as well as majors. The more advanced analysis of intermediate microeconomics and intermediate macroeconomics is absent in such courses. Fourth, these courses may expect students to write professional papers, but they do not necessarily teach the skills required to move from theory to practical analysis. Students may by trial-and-error learn these practical skills, but the result is hardly assured.

The Department of Economics has decided that the development of critical thinking and presentation skills in economics can best be assured in the context of a senior capstone course in economics. Effective Spring 2008, the Department will offer E406, Senior Seminar, in every spring semester. E406 will have a major emphasis on effective written presentation of economic analysis. The course will include material on a range of non-statistical research skills, on integration of statistical information into economic argument, and on oral presentation. The course will require several short written projects and one major project that must be submitted through at least two drafts.

With the addition of the capstone course, the Department will evaluate senior projects to assess critical thinking and written presentation skills. Each member of the Department Assessment Committee will evaluate the project of each student, using the scoring scale in Table 3D for critical thinking and presentation skills and the last column of Table 3C for data gathering and interpretation skills.

The Department of Economics has also decided to increase the number of credit hours in the economics concentration of the BSB from 12 to 15 hours. The capstone course will be in addition to at least two field courses. Further, the Department has emphasized in its advising that students should take intermediate microeconomics and intermediate macroeconomics no later than the third year. This will enable students to bring intermediate-level theory to their field courses and also be prepared for the capstone.

Other Assessment Information and Issues

The Economics concentration within the BSB must be assessed in the context of the core requirements for the BSB. The concentration will require 15 hours, while the core requirements for the BSB degree include 46 hours. All students in the Doermer School receive a broad business education, and the goals of the economics concentration must be assessed within that context. The Undergraduate Policy Committee of the Doermer School has been charged to develop an assessment process on a parallel track to departmental assessments. While this makes sense as the assessment process is initiated, some integration of the school and departmental assessment process is required in the future.

The Doermer School of Business has mandated each of its majors to involve students in at least one regional competition as a way to assess comparative performance of IPFW business students. The Department of Economics participates in the Fed Challenge program, a national competition sponsored by the Federal Reserve. The Fed Challenge program requires students to

combine economic knowledge of macroeconomics and monetary policy with very organized oral/visual presentation skills. The skills demanded in this competition are exactly the critical thinking and presentation skills that we need to emphasize in the curriculum and in the assessment process. While this type of external competition only involves a minority of our majors, it does generate some very useful qualitative information for the assessment process. The Department will include an assessment of student performance in the Fed Challenge as part of its assessment process.

The Department of Economics has a tradition of engaging undergraduates (both majors and non-majors) in the presentation of research papers at undergraduate research symposia at IPFW and other campuses in Indiana. Professors Samavati and Stumph have supervised over 90 students in the past eight years. Again, this type of activity is important to building effective analysis and presentation skills.

Students choose electives based upon their interests. But collectively, electives have an important role to serve, particularly in the development of critical thinking skills and in the application of economic theory. After the process for assessing the core curriculum is established, the department should revisit the question of how well the electives collectively meet the objectives of the program.

Department Assessment Committee

The Department will form a three person Assessment Committee whose charge will be to:

1. Work with instructors in E270, E321, and E322 to identify specific exam questions and/or assignments with which to assess student performance in identified skills in statistics, macroeconomics, and microeconomics.
2. Conduct the assessment of student performance in the skill areas in statistics, macroeconomics, and microeconomics.
3. Conduct the evaluation of the results from the TUCE and the ETS business exams.
4. Analyze the portfolios of the student's work from E406 to assess critical thinking and written presentation objectives.
5. Integrate information from the Fed Challenge and from student papers presented at research symposia into the assessment process.
6. Make recommendations to the faculty concerning course and curricular changes that may be suggested by the assessment process.
7. Make recommendations to the faculty with respect to changes in the assessment plan.

The Department chair, as part of the chair's administrative function, will notify the Assessment Committee of its responsibilities and will convey the recommendations of the

Assessment Committee for appropriate departmental action on curriculum change.

Economics Department Assessment Milestones

The following is an annual summary of milestones to develop and implement the assessment program for the Department of Economics

2006-07

- Conduct administrative work to add capstone and increase BSB required hours to 15.
- Assess microeconomic and macroeconomic skills in context of E321/322.
- Assess performance of economics majors in quantitative portion of ETS business exam.
- Implement advising changes to have majors take E321/322 in their junior year.
- Assess Fed Challenge results.

2007-08

- Continue assessment of macro/micro in E321/322.
- Continue assessment of Fed Challenge.
- Continue use of quantitative portion of ETS business exam.
- Initiate assessment of statistical skills in context of E270.
- Offer capstone course as part of core curriculum.
- Assess student portfolios from capstone.
- Administer TUCE in capstone course and include in assessment.
- Implement appropriate curriculum modifications.
- Review assessment scoring rubrics and make adjustments to assessment process.

2008-09

- Continue assessment as in 2007-08.
- Address assessment of curriculum contribution of electives.
- Move towards integrated assessment of economics concentration within Business School curriculum assessment.
- Implement appropriate curriculum modifications.
- Review assessment process.

References

Hansen, W. L. 1986, "What Knowledge is Most Worth Knowing – for Economics Majors?" *American Economic Review* 76: 149-52.

Hansen, W. L. 2001, "Expected Proficiencies for Undergraduate Economics Majors" *Journal of Economic Education* 32:231-42.

Table 1
Curriculum Map

	Core curriculum				Frequently offered Electives				
	E270	E321	E322	E406	E340	E346	E430	E350	E470
	Econ. Stat.	Interm. Micro	Interm. Macro.	Cap-stone	Labor Econ.	Gender Econ.	Int'l. Econ.	Money Banking	Econo-metrics
I. Statistical skills									
A. Statistical tests of means	X								
B. Interpret and apply regression analysis	X			X					X
C. Gather, interpret and present data			X	X	X	X	X	X	X
II. Microeconomic analytical skills									
A. Marginal analysis, with appl. to firm and consumer		X		X	X	X	X		
B. Market analysis		X			X	X	X		
III. Macroeconomic analytic skills									
A. Keynesian and ISLM macro models			X					X	
B. Fiscal and monetary policy			X				X	X	
IV. Analytical Integration and Presentation									
A. Research skills to develop policy background				X	X	X	X	X	
B. Effective writing and organizational proficiency				X	X	X	X	X	X

C. Connect economic analysis to policy

X X X X X X X X X

Table 2
Assessment Vehicles

I. Statistical skills			
A. Statistical tests of means	E270 course material	ETS exam	
B. Interpret and apply regression analysis	E270 course materials	Project from E406	
C. Gather, interpret and present data		Project from E406	
II. Microeconomic analytical skills			
A. Marginal analysis, with appl. to firm and consumer	E321 course materials	TUCE	
B. Market analysis	E321 course materials	TUCE	
III. Macroeconomic analytic skills			
A. Keynesian and ISLM macro models	E322 course materials	TUCE	
B. Fiscal and monetary policy	E322 course materials	TUCE	Fed Challenge feedback
IV. Analytical Integration and Presentation			
A. Research skills to develop policy background		Project from E406	
B. Effective writing and organizational proficiency		Project from E406	
C. Connect economic analysis to policy		Project from E406	Fed Challenge feedback; Student research competitions

Table 3A
Scoring Rubric for Microeconomic Skills

<u>Score</u>	<u>Marginal analysis</u>	<u>Market analysis</u>
0	No demonstrated skills	No demonstrated skills
1	Can explain role of marginal analysis	Can explain perfect competition; use supply & demand
2	Can apply marginal analysis in familiar contexts, esp. theory of firm and theory of consumer.	Can explain market inefficiency issues, such as imperfect competition, market failures, and public choice.
3	Can apply marginal analysis in unfamiliar contexts	Can explain and critique welfare foundations of economic policy analysis.

Table 3B
Scoring Rubric for Macroeconomic Skills

<u>Score</u>	<u>Macro Models</u>	<u>Monetary and Fiscal Policy</u>
0	No demonstrated skills	No demonstrated skills
1	Can use aggregate supply and demand	Can define monetary and fiscal policy
2	Can explain Keynesian, ISLM models	Can use macro models to explain macro policy
3	Can apply macro models in complex analysis	Can explain nuances of debate over activist macro policies

Table 3C
Scoring Rubric for Statistical Skills

<u>Score</u>	<u>Tests of Means</u>	<u>Interpret regression</u>	<u>Gather, interpret and present data</u>
0	No demonstrated skills; suggests inadequate math background	No demonstrated skills	No demonstrated skills; suggests serious problems in preparation
1	Can set up problem; errors in implementation	Can interpret coefficients of regression line as marginal impacts	Can find and present standard economic data
2	Can successfully conduct tests in familiar problems	Can interpret statistical properties of regression	Can use multiple data series to address complex interpretations of data
3	Can apply means tests in new contexts	Can assess limitations of regression results	Can conduct and interpret regression applications with collected data

Table 3D
Scoring Rubric for Critical Thinking Skills

<u>Score</u>	<u>Research skills</u>	<u>Writing and organization</u>	<u>Connect economic analysis to policy</u>
0	Fails to identify obvious sources	Written work very difficult to understand; may have grammatical errors	No ability to connect analysis to policy
1	Identifies obvious sources; relies too heavily on secondary sources such as texts	Grammar appropriate; organization limits understanding of argument	Correctly identifies relevant economic analysis; unable to complete argument
2	Identifies appropriate resources; uses at least some primary sources	Core economic argument can be understood; some details may be weakly presented	Connection of analysis to policy is correct; weaknesses in completing argument
3	Shows an ability to use higher-level resources that require "learning to learn" skills	Clear, convincing presentation of analysis	Connection of analysis to policy is correct, clear, and convincing