SECTION C

TAILORING PROGRAM OUTCOMES AND ASSESSMENTS FOR YOUR PROGRAM:
A CASE STUDY OF AN ECONOMICS PROGRAM

Kelly Whealan George

Embry-Riddle Aeronautical University Worldwide Campus

ABSTRACT

Per requirements and standards of SACs' principles and assessments, institutions must show ongoing, integrated planning and evaluation processes that incorporate a systematic review of mission and goals. Faculty generated student outcomes and assessments have received a greater focus in recent years in higher education, especially at the author's university, Embry Riddle Aeronautical University Worldwide (ERAU). In an effort to answer to all the consumers of our products, ERAU values programs that focus on making student learning outcomes central to the assessment process. To immediately implement this philosophy of outcomes based objectives and assessments within a program and estimate the value of implementing them within a course, the author redesigned and updated her ECON 210, Undergraduate Microeconomics online course as a sample within a program. Of special note, Economics is not a full stand alone program, but part of the Humanities and Economics Program within the Department of Arts and Letters at ERAU. The author used the Arnold Economics text and Aplia.com as a software tool in the course. Once she mapped the course's learning outcomes to University expectations and self-defined Program Goals, she could clearly indicate where students were held accountable for learning a specific learning objective and the feedback given. This process makes program improvement actionable. The author also shares the results of her analysis and implementation of indicated changes. Not all quantitative results were statistically significant, but qualitative data suggests overall positive results. This process was an enlightening exercise for the author at a minimum as a formal tool to improve the delivery and effectiveness of her course. In addition, this has served as a model for the Department of Arts and Letters pilot assessment process of student learning outcomes.

Introduction

After attending a session at an Economics teaching conference that demonstrated how one Dean had developed a coordinated strategy to map all learning objectives within his Business School, the author was inspired to see what could be done to ensure that all courses within the Economics Program met University goals and all assessments measured identified learning objectives. In order to do this, the author developed a set of program goals, learning objectives and self assessments at the program level for all Economics courses offered by ERAU Worldwide. The author was able to identify gaps in assessments and inconsistencies in learning objectives within the Economics Program. For this exercise, the author assumed that the total of 4 Economics courses were a full Program offered by ERAU. Currently, Economics is housed within the Humanities and Economics Program in the Department of Arts and Letters. The author compared sample course results from pre and post redesign. Even though not all quantitative results were statistically significant, a general positive result was noted in qualitative data from the comparison. Finally, the author shared this study with ERAU's administration which initiated a basis for a pilot program of tracking learning outcomes within the Department of Arts and Letters during summer 2007 under direction by Dr. Tom Sieland.

Assumptions

ERAU offered four Undergraduate Economics classes which for the purposes of this study, were considered a full Economics program. Each program should have a mission statement or list of goals for students within that program. The Economics mission statement needed development to tie it directly to the mission statement and goals of the Arts and Letters Department as well as to reference the University mission statement.

All current University goals and assessments were accounted for within this exercise. Other types of assessments were identified as samples or suggested ways to assess goals within a future program. Any broad-based future adaptation of this assessment strategy of learning outcomes would impact the

University's management breakdown and budgets. Criterions for success and procedures for a University wide assessment project were not considered or described in this study.

Definitions for This Project

Goals: Goals were considered broad Program outcomes; the highest order of what each Program strives to provide students. Goals did not focus on the specific teaching practices of any individual instructor, thus assuring academic freedom of professors while still fulfilling ERAU's mission statement. ERAU measured self described Goals solely through the Employer and Alumni surveys conducted by the Institutional Research Department (IR). To develop Goals at the Program level, the author considered industry expectations or the learning outcomes of an undergraduate economics major. Ultimately, industry is a consumer of a University's product.

Student Learning Objectives (SLO): Student Learning Objectives were considered more specific than Goals. SLO referred to the specific topics that students would learn and differed from class to class. Developed SLO were traced or referenced upwards to one or more specific Goals of the Economics program. SLO were easily and objectively measured from the graded deliverables of the students in each class conducted. Ideally, each SLO was measured at least twice in each class.

Assessment: Assessment was identified as a process that focuses on student and faculty processes and products that contributes to the achievement of the Program's Goals. Any Program assessment should be able to be observed, recorded, and compared for time series evaluation. Assessments should be able to provide information about the successful achievement of any Goals and identify areas in the curricula that need to be strengthened.

The Beginning of the Map: University Expectations

What does it mean to be an Embry-Riddle graduate? The University has set six cardinal expectations and requires competence in all six. This paper refers to University expectations as U1, U2, U3, etc and they are detailed below.

U1: First, Embry-Riddle graduates are expected to have competency in the basic themes, trends, and current status of mankind's intellectual history. To this end, students have the opportunity to closely study and intensively discuss seminal works of the humanities, philosophy, the behavioral and social sciences, and the life and physical sciences. Not only are students immersed in the main characteristics of these works and their social, historical, social, and technological contexts, but also they are sensitized to what seems to constitute the narratives of mankind.

U2: Second, Embry-Riddle graduates are expected to have competency in the basic features and dynamics of the contemporary world. Globalization, dynamic social and cultural interactions from the local and national through the transnational and international, reciprocal interactions of human psychologies and societies with science and technology, latest developments in the sciences, and the manifold consequences of telecommunications, the cyber world, and the mass media are just some of the extraordinary phenomena requiring insight from today's students.

U3: Third, Embry-Riddle graduates are expected to have competency in basic cognitive, motivational, emotional, behavioral, and communication skills. These skills include rational and probabilistic thinking, close reading, clear and forceful writing and speaking, and the awareness and management of feeling.

U4: Fourth, Embry-Riddle graduates are expected to have competency in basic mathematical, scientific, and technological principles. These principles include what constitutes scientific methods, relationships between science and technology as well as basic and applied science, quantitative analysis, and relationships between and among the psychological, behavioral, social, life, and physical sciences.

U5: Fifth, Embry-Riddle graduates are expected to have competency in social intelligence or basic "street smarts." This includes knowledge and skills such as navigating the political dynamics of an organization, learning the unwritten rules of communities and groups, anticipating and managing conflict, "reading" the intent of associates and strangers alike, and anticipating and managing the

inevitable victories and reversals of life. Much of this increases the probability that one can become a leader as well as a follower, an agenda setter as well as an agenda recorder, and a success instead of a victim and failure in life.

U6: Sixth, Embry-Riddle graduates are expected to live through a core of morals, ethics, and values that embrace a life of achievement and service to others. Embry-Riddle graduates are expected to be leaders seeking to make the secular and the sacred worlds better during their lives. They are expected to respect others and human dignity and be characterized by integrity. They are expected to appreciate the diversity of other people and their ideas and actions—even as they also are expected to know that there is right and wrong and life is an opportunity to advocate for the right. Perhaps the most admired trait of an Embry-Riddle graduate is the courage to stand up for what is right against formidable adversaries in times of adversity.

Economics Program Level Mission Statement

Once University expectations were codified, each Program should have a Mission Statement. The Program Chair should have the responsibility for updating the mission statement at the end of each Assessment cycle to ensure that all intentions of the program and University are reflected in the Mission Statement.

The inaugural Mission Statement created by the author for ERAU's Economics Program was as follows: "The Economics portion of the Humanities and Economics Program within the Department of Arts and Letters is made up of a community of scholars who are committed to providing students the opportunity to gain both theoretical and practical knowledge to analyze economic problems and issues, think strategically, and use these skills to lead effectively. Students will develop the skills of decision making and independent current research."

Economics Program Goals

With the Program Mission statement penned, the author solely developed Program Goals for the sample Economics Program. In the practice of expanding this strategy to other Programs within the University, the Program Chair would want to include appropriate interaction and synergy with the Program Faculty. For this study, the author developed the following Program Goals to fulfill the inaugural Mission Statement and University expectations. Each Program Goal is referred to as M1, M2, M3, M4, M5, M6 and M7. Within each Program Goal, related Assessments for that Program Goal were identified. Assessments listed in italics are not currently in use at ERAU but could be adopted at a future time. Also, some assessments would not be appropriate for ERAU because in practice the University does not have a full stand alone Economics Program. However, the author included these assessments because they were samples of the types of assessments that could be adopted for other University Programs. In order to make sure that each Program Goals served the University expectations of a graduate, after each Program Goal, the author listed the University expectation following in parenthesis that it maps or relates up to.

M1: Every student will have access to faculty who are able to aid the student in understanding the global economy. Each student will have the opportunity to be exposed to different perspectives which enable the student to effectively analyze a variety of economic, business and political situations. (U2)

Assessment: Informal faculty conversations (ERAU currently uses Blackboard discussion forums). Records of faculty engaging in Economic Education activities/conferences. Engage student in independent research and publication. Engage students in national economic competitions. Perform student end of course evaluations.

M2: Students will be numerically literate, and possess strong written communication skills. Every student will have prepared papers which combine numerical and graphical data with the written word. (U3)

Assessment: Results from Alumni and Employer surveys currently conducted by IR; *Student Thesis/Capstone course; Standardized national exams; Student portfolio* .

M3: All students will have the ability to orally or publicly present their ideas and to effectively listen and analyze information from the presentations of peers. (U3)

Assessment: Results from Alumni and Employer surveys currently conducted by IR; *Student Thesis/Capstone course.*

M4: Economics students will be able to use statistical data to help solve a variety of analytical problems. Each student will have experience using the computer to analyze statistical data. Students will be able to make statistical analysis regarding economic data and be able to critically evaluate reports containing the statistical analysis of data. Students will be able to interpret a linear regression model with dependent and independent variables. (U4, U5)

Assessment: Results from Alumni and Employer surveys currently conducted by IR *Student Thesis/Capstone course; Standardized national exams; Student portfolio.*

M5: Every student will be able to use the concept of supply and demand to analyze current economic issues. Each student will be able to apply the economic principles of decision making to business situations. Students will have the capability to understand the impact of international macroeconomic events on the national economy. Students will be able to understand and apply the concepts of elasticity, public goods, and comparative advantage. Students will be able to understand theories on the root causes of unemployment, inflation, and economic growth. (U1, U4)

<u>Assessment</u>: The author found that there is no comprehensive assessment of Economics classes at the Program level; *Student Thesis/Capstone course; Standardized national exams.*

M6: Every student will be able to apply economic principles to aviation. Students will know the philosophical and legal premises for the governmental structure which regulates transportation. Students will be able to use related economic concepts available to aviation management. Students will provide examples of the competition between airlines as reflected in rates, scheduling, and capital investment. (U1)

<u>Assessment</u>: Results from Alumni and Employer surveys currently conducted by IR. *Student Thesis/Capstone course. Standardized national exams. Student portfolio.*

M7: Every faculty member will fulfill the role of a teaching scholar. Excellence in teaching is not possible without a faculty actively involved in instructional improvement, advancement of theory and practice through research, publication, and professional development, and professional involvement with the community.

<u>Assessment</u>: Annual reviews of full-time and adjunct faculty with specific attention to scholarly work; Meaningful faculty meeting activities; Consideration and evaluation of non-ERAU activities of faculty included in annual review; Faculty end of course evaluations.

Student Learning Objectives

The next level of structure the author developed was the Student Learning Objectives (SLO). SLO were more specific than goals. These specified the topics that students covered and they differed from class to class. As part of this strategy, the author mapped the SLO to one or more specific Goal(s) of the Program. In the development effort, the author paid special attention to ensure that the SLO were objectively measured via the graded deliverables of the students in each class. Ideally, each SLO should

also be measured at least twice in each class and twice within a Program. Detailed below are the SLO developed by the author and their related Program Goal(s).

1. Economics majors will be numerically literate, and possess strong written and oral communication skills. Every student will have prepared papers which combine numerical data with the written word and have an opportunity to orally present their ideas. (M2, M3)

2. All economics students should be able to use statistical methods for problem solving (e.g. hypothesis testing, regression analysis). (M4)

3. All economics students should be able to use the concept of supply and demand to analyze the current economic issues of the day. Students should understand the workings of a perfectly competitive market and variations in market outcomes when market imperfections (e.g., externalities, public goods) or interventions (taxes, other government regulations) are present. (M5, M6)

4. All economics students should be able to use the aggregate demand/aggregate supply framework for short-run and long-run analysis of macroeconomic changes on price levels and national output. (M5)

5. All economics students will be able to identify the costs and benefits of a global economy, i.e., the free movement of goods, services, capital and people across national borders, in the context of a variety of international monetary arrangements (e.g. fixed versus flexible exchange rates). (M5)

6. All economics students should be able to apply economic principles to the aviation industry. (M6)

M1 and M7 were not mapped because they are faculty focused, not student focused.

Curriculum Grid

The Curriculum Grid detailed in Table 1 depicts the list of developed SLO and courses within the Economics Program. Each cell denoted with an "X" indicates that the SLO in that row is covered by the course within that column. For best assessment principles, every SLO should be covered in at least two

courses. For example, when the author first embarked upon this study, SLO 2 was only measured in ECON 315 Managerial Economics. As the Program Chair, the author made the decision to change the learning objectives of ECON 420 Aviation Economics, so that SLO 2 was also included in future offerings. This exercise and course change by itself, with associated documentation, is an example of a Program assessment and an improvement that would satisfy SAC's requirements. Table 1 indicates the resulting structure of the Economics Program at ERAU.

Table 1

Curriculum Grid of the Economics Program at ERAU

SLO	210	211	315	420
1	X	X	X	X
2			X	X
3	X	X	X	X
4		X		X
5	X	X		X
6	X	X	X	X

In this mapping strategy, the author concludes that a Curriculum Grid can serve as a tool in the evaluation portion of the Assessment cycle for the Program. Questions and reviews about the validity of the SLO and updating the curriculum grid should take place at regular intervals (in a formal internal review process) by the Program Chair and appropriate Faculty.

In order to best model this process of curriculum management and oversight, the author tailored the Course Outline in the next step of this mapping strategy. At ERAU, each course had a Course Outline developed by an appropriate faculty member who was the Course Monitor. In the author's case, she was

the Course Monitor and Program Chair. Each instructor in the University used the Course Outline for preparation of the course syllabus and for instruction.

In the subsequent study, the author used ECON 210 Microeconomics as the test course. She altered the Course Outline so that the course's specific Learning Outcomes show the related SLO of the Economics Program. Table 2 reflects the resulting set of Learning Outcomes. The third column shows the SLO that each ECON 210 Microeconomics learning outcome satisfied. (Appendix A reflects the complete Course Outline for ECON 210 Microeconomics.)

Table 2

ECON 210 Learning Outcomes and Related SLO

Learning Outcome	Description	Related SLO
1	Recognize basic supply and demand analysis	SLO 3
2	Recognize the structure and the role of costs in the economy	SLO 5
3	Describe, using graphs, the various market models: Perfect competition, monopoly, monopolistic competition, and oligopoly.	SLO 5
4	Explain how equilibrium is achieved, in the various market models, in both the long and short run.	SLO 3
5	Recognize how resource markets relate to the product markets	SLO 3 & 5
6	Identify problem areas in the economy, and possible solutions, using the analytical tools developed in the course.	SLO 1 & 6
7	Recognize how all the parts of the economy integrate into the whole.	SLO 5
8	Recognize the international economy, and describe how it works.	SLO 5
9	Discuss income distribution.	SLO 5

The Course Outline also included the course's grading scheme. In using a mapping strategy, the Course Outline should reflect where each SLO is assessed. Table 3 is the excerpt from the updated ECON 210 Microeconomics Course Outline that details the assessment types and the corresponding SLO assessed. This grading system was subsequently mandated by the University's administration to be followed by all instructors teaching Microeconomics at ERAU. Online courses at ERAU had all assessments embedded within each course and are not altered by individual instructors to ensure consistency across all sections.

Table 3

Grading System:

Item	% of Final Grade	SLO
Tests	50	1
Reports	30	1, 3, 5, 6
Homework/Participation	20	1, 5
Final Examination	25	1, 3, 5, 6

Following the project down the line, each course's Syllabus should also reflect this mapping strategy. Using the author's Online course as the sample, the author then embedded the mapping strategy within her Syllabus. The Syllabus reflected the SLO as detailed in the course outlines. Each week or module of work also had a subset of learning objectives or topics presented that would map to the SLO detailed in the Course Outline. At the syllabus level, assessments are also identified and mapped to the SLO. For example, in the author's sample course, she mapped every graded deliverable to a SLO. Every discussion question, homework question, and test question was mapped to the weekly learning objectives and thus the SLO. In addition, the author ranked every test question according to Bloom's taxonomy to ensure an appropriate mix of difficulty. Using Blackboard's statistic tools, the author

can quickly assess the success of each student's grasp of a particular SLO and make any appropriate adjustments or clarifications during the course.

To better complete the circle of assessments and feedback to the student, every form of assessment should have a grading rubric. In the author's sample course, students are required to write a term paper and participate in weekly discussion questions. As a result of this experiment, she created and provided rubrics so that students would know exactly what would constitute a particular grade. In addition, all of the test questions have feedback embedded within them so that students see why a particular chosen answer was wrong. The author concluded that this creation of rubrics was an addition to the course and would qualify as part of the University's ongoing, integrated planning and evaluation processes that would satisfy a systematic review of mission and goals as required by SACs.

Results of the Comparison of the Pre and Post Mapped Course

Once the author set up the mapped course so that all the SLO were adequately covered, this newly mapped course was taught by numerous Online instructors, including the author. All of the graded deliverables remained constant from pre and post map with the exception of a few test questions. In addition, the newly mapped course now required weekly work by the student. Previously, in the student was never held directly accountable for not submitting weekly work.

The author gathered the raw data of the final course scores for each student in each instructor's pre-mapped and post mapped course. This enabled the author to compare the scores of each instructor and students in each pre- and post mapped course to determine if any change between the means of the final course grades were significant. Table 4 details the mean and the standard deviation of final course grades for each instructors' pre- and post mapped courses. In four of the six courses compared, the change in the mean was significant, 2 at the 95% level and 2 at the 90% level.

Table 4

Comparison of Results of Pre and Post Mapped ECON 210 Microeconomics Course

Instructor	Pre mapped μ	Pre mapped σ	Post mapped μ	Post mapped σ	Level of Significance	Δ in % FX grades
G	74.55	16.33	81.73	8.71	Y – 90%	0 to 0%
V	72.55	19.32	76.84	11.93	N	0 to 3%
S	80.45	8.70	83.64	5.51	Y – 90%	17 to 1%
H	81.17	7.21	78.05	15.86	Y – 95%	20 to 0%
T	80.06	7.29	72.10	14.78	Y – 95%	33 to 9%
B	84.19	6.74	82.88	11.69	N	12 to 5%

The author also discovered a phenomenon in the performance of students in the post mapped course with regards to students who fail because they stopped attending class. The grade (FX) is the grade given in an online class to students who fail because they stopped attending classes. In four of the six comparison courses, the percentage of students who received an FX dropped significantly. The author attributes this result to the requirement that students are graded on weekly work. Failure to accomplish weekly activities negatively affected the students' final grade. Therefore, students who would get overwhelmed with work and choose not to return to class late in the term were replaced by students who understood early in the term that they could not keep up. Withdrawals increased to replace FX grades.

The author also gathered qualitative comment data via an email from all instructors in this comparison course. There was no specific survey instrument used, rather an open ended question of "With the re-structuring of this course, what qualitative changes did you witness?" The following summarizes the findings:

- o   The inclusive of assignment rubrics helped increase quality and consistency of the term papers and discussions.

- o   The requirement of weekly graded assessments gives feedback to students and instructor of any SLO that is not adequately mastered by student(s). This allows for quick feedback and redirection

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of instruction if necessary. In previous classes, the first indication that a SLO wasn't mastered by students was after viewing midterm results. Instructors can make changes in class mid-stream based on the results of assessments.

o   The requirement of weekly graded assignments kept students engaged and progressing throughout the class term. This minimized the amount of back teaching, brain drain from time away from class, and failures due to procrastination.

o   One instructor noted that the level of student complaints increased significantly. However, the instructor decided that students were complaining for the right reasons such as weekly requirements and papers that take more than a night or two to write rather than the wrong reason, namely inadequate interaction with peers and instructors.

Conclusions and Recommendations

When the author began this mapping strategy, it was just for her own edification. However, once the mapping procedure was followed and traced through from University expectations down to weekly learning objectives, it was evident that this mapping strategy answered at least some of SACs criteria of continuous improvement within the curriculum. To ensure that all Program Goals are adequately addressed in just the Microeconomics course, some standardization of the course for numerous instructors is required. This mapping strategy is just one way to introduce consistency and completeness within the course.

Even if this specific strategy is not formally adopted, individual instructors and courses could benefit. As an example, the author found a handful of gaps in her syllabus where certain Learning Objectives were not adequately covered and appropriately assessed. This strategy course be used as a within-term quantitative check on how well the students are performing. Teaching could be altered according to salient results rather than just moving on to the next learning objective. Another benefit is that assessment results are available to instructors in hard form for student mastery of learning objectives rather than relying on a gut feeling as an instructor's guide. Additionally, not a small result of this mapping

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strategy is the evidence that Online students are more actively engaged and perform better when weekly graded work is integral to the students' success in the course.

If one could expand this mapping strategy to all Programs within a Department and document improvement at specific intervals, the SACS criteria for continuous improvement could be met and the Department would be coordinated in their duty to meet SLO, Program Goals and ultimately University expectations. The author's experience also resulted in more of a connection to serving the overall University mission rather than just as an adjunct professors teaching one course of the possible 40 that students must take before they are called ERAU alumni.

The Department of Arts and Letters of ERAU Worldwide is currently in the first phase of implementing this mapping strategy under the direction of Dr. Thomas Sieland. Department Goals have been penned and a matrix similar to the Curriculum Grid presented in Table 2 has been constructed

[1]

References

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ECON 210 final grades. (2006-2007). [Spreadsheet showing students final grades in six instructors classes during 2006-2007]. Unpublished raw data.

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Wilson, T. (2006, August). Assessment Processes. Presentation conducted at the Faculty Assessments Workshop at Embry Riddle Aeronautical University. Daytona Beach, FL

Embry-Riddle Aeronautical University
Arts and Letters Department
Course Outline For

Course No. ECON 210   Title <u>Microeconomics</u>   Cr. Hrs. <u>3</u>

Lecture Hours <u>40</u>   Laboratory Hours <u>0</u>

COURSE DESCRIPTION:

An introduction to the economic principles of free enterprise supply and demand, private and social implications of profit maximization, market structure, and resource markets. Current microeconomic issues in aviation (such as liability reform, evolution of airline completion, etc.) are discussed. Prerequisites: MATH 111 or equivalent and ENGL 123, 143 or equivalent.

GOALS:

The purpose of this course is to present the theory of price and output determination. The student will learn how to apply elementary microeconomic principles to domestic and international policies.

In order to maintain student interest and better perform our mission, professors will utilize current aviation examples to illustrate these economic principles as frequently as possible.

LEARNING OUTCOMES:
Upon course completion, students will be able to:

1.   Recognize basic supply and demand analysis. (SLO 3)

2.   Recognize the structure and the role of costs in the economy. (SLO 5)

3.   Describe, using graphs, the various market models: Perfect competition, monopoly, monopolistic competition, and oligopoly. (SLO 5)

4. Explain how equilibrium is achieved, in the various market models, in both the long and short run. (SLO 3)

5. Recognize how resource markets relate to the product markets. (SLO 3, 5)

6. Identify problem areas in the economy, and possible solutions, using the analytical tools developed in the course. (SLO 1, 6)

7. Recognize how all the parts of the economy integrate into the whole. (SLO 5)

8. Recognize the international economy, and describe how it works. (SLO 5)

9. Discuss income distribution. (SLO 5)

Undergraduate: Reviewed and Approved by:

Extended Campus

_____/_____   _____/_____

Chair   **Date**   **Dean of Academics**   **Date**

NOTE ON LIBRARY USE: The Jack R. Hunt Library, located on the Daytona Beach Campus is the primary library for all Extended Campus students. The Dean of Academics strongly recommends that every faculty member, where appropriate, make it a requirement for all students in their class to access the Hunt Library or a comparable college-level local library and perform research. The results of this research can be used for class projects such as research papers, group discussion, or individual presentations. The important thing is getting our students to access the library.

General Library Information and Support:
> *WEB:* *HTTP://AMELIA.DB.ERAU.EDU*
>
> *PHONE:* *(800) 678-9428 OR (386) 226-6947* **(VOICEMAIL IS**
>
> **AVAILABLE AFTER HOURS)**
>
> **Hours:** Monday - Friday, 8:00 a.m. - 5:00 p.m. EST
> **Email:** eclib@erau.edu

TEXTBOOK:
Primary:
Arnold, (2005) Economics, 7th Ed., South-Western College Publishing, ISBN: 0-324-23662-X

Acceptable Alternates:
Mankiw, (2005), Principles of Economics, 4th Ed, South-Western College Publishing, ISBN: 0-324-224729

McConnell/Brue (2005), Economics, 16th ed, McGraw Hill Publishing, ISBN: 0-07-2982713

SUGGESTED SUPPLEMENTAL MATERIALS:

    a.   Reference publications/supplemental readings: Aplia.com, Wall Street Journal, any handouts on topics presenter.
    b.   Audio-visual materials: None.
    c.   Special equipment: None.

TOPICS:

    1.   Supply and Demand.

        Explain the laws of supply and demand and the rationing function of prices in the market. Recognize, interpret, and compute different measures of elasticity. Identify the marginal utility concepts of the theory of demand.

        10 class hours (6 hrs must relate to aviation).

2.   Economic Functions of Government

   Discuss externalities, tax burdens, and income distribution. Recognize legal forms
   of business.

   6 class hours

3.   Cost Theory.

   Define and explain the derivation of the family of cost curves including total,
   average, and marginal concepts. Recognize implicit and explicit costs. Recognize
   break-even conditions.

   4 class hours (1 hrs must relate to aviation).

4.   Market Structure.

   Recognize the cost and structure of imperfect competition. Identify how imperfect
   competition effects resource allocation. Analyze price and output determination
   under the following market structures: perfect competition, monopolistic
   competition, oligopoly, and monopoly.

10 class hours (4 hrs must relate to aviation).

5.   Factor Input Pricing.

Explain the basic theory of wage determination. Analyze the determination of interest and land rents.

6 class hours (2 hrs must relate to aviation).

6.   Current Debates.

Recognize the causes and consequences of inequality and poverty in our society. Recognize the effects of economic growth on the quality of life. Describe the rationale of measuring externalities and "internalizing" their costs.

4 class hours (2 hrs must relate to aviation).

Note: In presenting the above topics the professor will incorporate current aviation examples as much as possible.

GRADING SYSTEM:
Tests 50%; (SLO 1)
Reports 30%; (SLO 1, 3, 5, 6)
Homework/Participation 20%; (SLO 1, 5)
Final Examination 25%

Prepared by: Kelly George   1 Mar 2006
                      Course Monitor   Date
                      Kelly.George@erau.edu

Approved by: Jim Schultz, Ed.D.   1 July 2006
                          Chair   Date