

Basic Program Information

Department Name:

Economics

Division Name:

Business and Social Science

Program Mission(s):

To provide students with an underpinning of economic theory and critical thinking in preparation for future academic and workplace environments.

Please list all Program Review team members who participated in this Program Review:

Name	Department	Position
Brian Evans	Econ	Instructor
Jay Patyk	Econ	Instructor

Total number of Full Time Faculty:	2
Total number of Part Time Faculty:	6

Please list all existing Classified positions:

none

List all Programs* covered by this review & check the appropriate column for program type:

Program Name	Certificate of Achievement Program	Associate Degree Program	Pathway Program
Economics		AA	

*If you have a supporting program or pathway in your area for which you will be making resource requests, please analyze it within this program review (i.e. Integrated Reading and Writing, Math My Way, etc.) You will only need to address those data elements that apply.

Section 1: Data and Trend Analysis

a. Program Data:

Data will be posted on <http://foothill.edu/staff/irs/programplans/programreviewdata.php> for all measures except non-transcriptable completion. You must manually copy data in the boxes below for every degree or certificate of achievement covered by this program review.

Transcriptable Programs	2010-2011	2011-2012	2012-2013	% Change

Please provide any non-transcriptable completion data you have available. Institutional Research does not track this data; you are responsible for tracking this data.

Non-Transcriptable Program	2010-2011	2011-2012	2012-2013	% Change
Example: Career Certificate				

b. Department Level Data:

	2010-2011	2011-2012	2012-2013	% Change
Enrollment	2374	2933	2757	-6.0%
Productivity (College Goal 2013-14: 535)	699	658	605	-8.1%
Success	1417	1754	1689	-3.7%
Full-time FTEF	5.5	7.2	7.4	1.9%
Part-time FTEF				

c. Associate Degree Transfer (ADT)

There is a fall 2014 legislated deadline for approval of ADTs (AA-T/AS/T degrees). **If there is a Transfer Model Curriculum (TMC) available in your program, you are required to offer an approved AA-T/AS-T.** Indicate the status of your program's ADT:

Check one	Associate Degree Transfer Status
	State Approved
	Submitted to CCCC
	Submitted to Office of Instruction
	In Progress with Articulation
<input checked="" type="checkbox"/>	Planning Stage with Department
	Not Applicable

If you are required to offer an approved ADT and it has not been state-approved, please comment on the program's progress/anticipated approval date.

TMC not yet finalized... vetting is closed and it is under review.

Using the prompts and the data from the tables above, provide a short, concise narrative analysis for each of the following indicators. If additional data is cited (beyond program review data sheet), please indicate your data source(s).

d. Enrollment trends: Over the last three years, is the enrollment in your program holding steady, or is there a noticeable increase or decline? Please comment on the data and analyze the trends.

Up about 16% from 2010-11 despite a 6% fall from last year.

e. Student Demographics: Please comment on the enrollment data, comparing the program-level data with the college-level data. Discuss any noticeable differences in areas such as ethnicity, gender, age and highest degree.

The most obvious differences relative to college-level data are male enrollment (57% in Econ relative to 46% for the college) and Asian students (36% in Econ relative to 26% for the college).

f. Productivity: Although the college productivity goal is 535, there are many factors that affect productivity, i.e. seat count/facilities/accreditation restrictions. Please evaluate and discuss the productivity trends in *your program*, relative to the college goal and any additional factors that impact productivity. If your productivity is experiencing a declining trend, please address strategies that your program could adopt to increase productivity.

Productivity has declined the past two years and is down 13% relative to 2010-11. This is most likely due to an expansion of classes and the hiring of more part-time instructors. To increase productivity the evening Middlefield classes could be cut and perhaps replace by early afternoon (12 – 4 PM) classes at the main campus. Those may be popular hours for many students – maybe more popular than the 8 – 10 AM slot. How about experimenting more with these hours?

Section 2: Student Equity and Institutional Standards

As part of an accreditation requirement, the college has established institution-set standards across specific indicators that are annual targets to be met and exceeded. Please comment on how these indicators compare at your program level and at the college level. (For a complete description of the institutional standard, please see the instructional cover sheet)

a. Institutional Standard for Course Completion Rate: 55%

Please comment on your program's course success data, including any differences in completion rates by student demographics as well as efforts to address these differences.

The overall success rate tends to hover just above 60% (61% in 2012-13). No difference between male and female success. However success rates by Asians (70 – 74%) are quite high while those of targeted groups are quite low: African American (27 – 47%), Filipino (41 – 53%), Latino/a (42 – 47%). Teachers encourage all students to come into office hours and we tend to be generous with our time with those that come in – with special attention to targeted groups.

b. Institutional Standard for Retention: 50%

Please comment on the course retention data for your program, including any differences in retention rates by student demographics as well as efforts to address these differences, should they exist.

Roughly 80% of students hang around for a grade... meaning about 20% withdraw. Withdrawal rates are slightly higher for African American (20 – 34%) and Latino/a (22 – 29%) populations. Both full-time faculty try to provide accurate information as to progress as the drop date approaches.

c. Institutional Standard for Degree Completion Number: 450

Has the number of students completing degrees in your program held steady or increased/declined in the last three years? Please comment on the data, analyze the trends, including any differences in completion rates by student demographics.

Held steady at a very small number (13 in 2011-12). Most students seem to go for transfer without bothering to get an AA degree. Numbers are too small to be meaningful.

d. Institutional Standard for Certificate Completion Number (Transcriptable): 325

Has the number of students completing certificates in your program held steady, or increased/declines in the last three years? Please comment on the data, analyze the trends, including any differences in completion rates by student demographics.

n/a

e. Institutional Standard for Transfer to four-year colleges/universities: 775

Based on the transfer data provided, what role does your program play in the overall transfer rates? Please comment on any notable trends or data elements related to your program's role in transfer.

See data / information below (from Bernie Day)... this data does not seem like it is tracked very well.

For fall 2013, there were 8 students who transferred to CSU as ECON majors, 44 if you add business, mgmt, marketing to the mix. We do not receive data like this from the UC system; however, I do know that we had 25 students admitted to UCLA for BUS/ECON in Fall 2012 (fall 2013 data not yet available).

The economic courses are articulated as follows:

ECON 1A: Transferable to UC; CSU; approved for IGETC and CSU GE
ECON 1B: Transferable to UC; CSU; approved for IGETC and CSU GE
ECON 9: Transferable to UC; CSU; approved for IGETC and CSU GE
ECON 18: Transferable to UC; CSU; approved for IGETC and CSU GE
ECON 25: Transferable to UC; CSU; approved for IGETC and CSU GE
Other ECON (54H and 70 series): transferable to CSU as electives

Here is a partial list of the many different types of majors for which our economics courses are articulated as fulfilling one or more of the lower division major requirements:

1. African American Studies
2. Agricultural Business
3. Animal Science and Management
4. Apparel Merchandising
5. Architecture
6. Business Administration (many different specializations)
7. City and Regional Planning
8. Computer Information Systems
9. Concrete Industry Management
10. Construction Management
11. Economics
12. Environmental Science and Resource Management
13. European Studies
14. Family and Consumer Sciences
15. Global Studies
16. Graphic Communication
17. Health Science
18. History
19. Hospitality Management
20. Industrial Engineering
21. International Relations
22. Legal Studies
23. Mathematics
24. Manufacturing Engineering
25. Marketing
26. Mechanical Engineering
27. Nutritional Science
28. Operations Research and Management
29. Peace and Conflict Studies
30. Political Science
31. Public Policy and Administration

- 32. Recreation, Parks & Tourism Administration
- 33. Social Science
- 34. Social Work/Social Welfare
- 35. Sustainable Manufacturing
- 36. Textiles and Clothing
- 37. Wine and Viticulture

Section 3: Core Mission and Support

The College's Core Missions are reflected below. Please respond to each mission using the prompts below.

a. Basic Skills: (English, ESLL and Math): For more information about the Core Mission of Basic Skills, see the Basic Skills Workgroup website: <http://foothill.edu/president/basicskills.php>
If your program is categorized as a basic skills program, please discuss current outcomes or initiatives related to this core mission and analyze student success through the core mission pathway.

If your program is NOT categorized primarily as a basic skills program, comment about how your program/classes supports Foothill's basic skills mission and students.

Econ is somewhat mathematical and we are in the process of implementing a Math 220 (Elementary Algebra) pre-requisite for both Econ 1A and Econ 1B. We also have an English 1A advisory for these courses.

b. Transfer: For more information about the Core Mission of Transfer, see the Transfer Workgroup website: <http://foothill.edu/president/transfer.php>
If your program is classified as a transfer program, please discuss current outcomes or initiatives related to this core mission and analyze student success through the core mission pathway.

We are in the process of creating an Econ AA-T. The TMC at the state level is not yet finalized but should be fairly soon. As mentioned, we are putting in a math pre-req in anticipation of final TMC approval and will move to create an AA-T once the TMC is approved.

If your program is NOT categorized primarily as a transfer program, please comment about how your program/classes support Foothill's transfer mission and students.

[Large empty box for notes]

c. Workforce: For more information about the Core Mission of Workforce, see the Workforce Workgroup website: <http://www.foothill.edu/president/workforce.php>

If your program is classified as a workforce program, please discuss current outcomes or initiatives related to this core mission and analyze student success through the core mission pathway.

[Large empty box for notes]

If your program is NOT categorized as a workforce program, please comment about how your program/classes support Foothill's workforce mission and students.

We teach students to think critically.

Section 4: Learning Outcomes Assessment Summary

a. Attach 2012-2013 Course-Level – Four Column Report for CL-SLO Assessment from TracDat, please contact the Office of Instruction to assist you with this step if needed.

b. Attach 2012-2013 Program Level – Four Column Report for PL-SLO Assessment from TracDat, please contact the Office of Instruction to assist you with this step if needed.

Section 5: SLO Assessment and Reflection

Based on your assessment data and reflections, please respond to the following prompts.

a. What curricular, pedagogical or other changes have you made as a result of your CL-SLO assessments?

We have added a few more worksheets... perhaps the full-time faculty pay a bit more attention to what is happening in the adjunct classroom as a result of the SLO process?

b. How do the objectives and outcomes in your courses relate to the program-level student learning outcomes and to the college mission?

The course objectives align well with the PL-SLOs... here are a few examples:

Econ 1A objectives:

- A. understand basic economic concepts of scarcity, opportunity cost, and self-interested behavior.
- B. demonstrate understanding of the determinants of total output and employment
- C. understand source of economic growth
- D. apply macroeconomic models to understand the economy
- E. understand current economic statistics
- F. demonstrate understanding of the workings and controversies surrounding monetary and fiscal policy.
- G. recognize and apply the importance of cultural sensitivity in economics.

Econ 1B objectives: The student will be able to:

- A. understand and apply basic economic concepts of scarcity, opportunity cost, and self-interested behavior.
- B. demonstrate an understanding of market forces and equilibrium.
- C. calculate and interpret elasticity
- D. analyze firm behavior - including costs and profit maximization.
- E. analyze various market structures
- F. understand market failures and potential policies to mitigate such failures.
- G. recognize and apply the importance of cultural sensitivity in economics

Economics Program Learning Outcomes

1. Have a working understanding of the economic role of government, fiscal and monetary policy, the Federal Reserve, fractional reserve banking, market structure, and the role of prices in a market economy.
2. Employ economic reasoning to explain the world around them and make objective decisions based on assessments of costs and benefits.

c. How has assessment of program-level student learning outcomes led to certificate/degree program improvements? Have you made any changes to your program based on the findings?

We have made no changes based on the PL-SLO assessment results.

d. If your program has other outcomes assessments at the program level, comment on the findings.

e. What do faculty in your program do to ensure that meaningful dialogue takes place in both shaping and evaluating/assessing your program's student learning outcomes?

We have slightly modified our questions over time – we anticipate continuing that going forward. For us, it is the annual meeting of all Econ faculty that matters (more than the data generated). In these meetings we use the PLOs and SLOs as a springboard to discuss what and how we teach our courses. I believe all members find these meetings useful.

Section 6: Program Goals and Rationale

Program goals address broad issues and concerns that incorporate some sort of measurable action and connect to Foothill's core missions, [Educational & Strategic Master Plan \(ESMP\)](#), the division plan, and SLOs. Goals are not resource requests.

List Previous Program Goals from last academic year: check the appropriate status box & provide explanation in the comment box.

Goal/Outcome (This is NOT a resource request)	Completed? (Y/N)	In Progress? (Y/N)	Comment on Status
1. Ensure all Econ faculty assess not only positive but also normative aspects of economic logic (e.g. are tariffs good? Are price controls good? Is exploiting economies of scale a good idea?...)		Yes	Ongoing conversation with all Econ faculty

New Goals: Goals can be multi-year (in Section 7 you will detail resources needed)

Goal/Outcome (This is NOT a resource request)	Timeline (long/short-term)	How will this goal improve student success or respond to other key college initiatives?	How will progress toward this goal be measured?
1. Create the Econ AA-T degree	Short to mid term	Allow easier and greater transfer	Have the state approve our AA-T

Section 7: Program Resources and Support

Using the tables below, summarize your program's unfunded resource requests. Refer to the Operations Planning Committee website: <http://foothill.edu/president/operations.php> for current guiding principles, rubrics and resource allocation information.

Full Time Faculty and/or Staff Positions

Position	\$ Amount	Related Goal from Table in section 6 and how this resource request supports	Was position previously approved in last 3 years? (y/n)

		this goal.	
One FT instructor	tbd	all	no

Unbudgeted Reassigned Time (calculate by % reassign time x salary/benefits of FT)

Has the program received college funding for reassign time in the last three years? (y/n)	If yes, indicate percent of time.
Has the program used division or department B-budget to fund reassign time? (y/n)	No

Indicate duties covered by requested reassign time:

Responsibility	Estimated \$	Related Goal from Table in section 6 and how this resource request supports this goal.	Est hours per month	% Time
n/a				

One Time B Budget Augmentation

Description	\$ Amount	Related Goal from Table in section 6 and how this resource request supports this goal.	Previously funded in last 3 years? (y/n)
none			

Ongoing B Budget Augmentation

Description	\$ Amount	Related Goal from Table in section 6 and how this resource request supports this goal.	Previously funded in last 3 years? (y/n)
none			

Facilities and Equipment

Facilities/Equipment Description	\$ Amount	Related Goal from Table in section 6 and how this resource request supports this goal.	Previously funded in last 3 years? (y/n)
none			

Section 8: Program Review Summary

Address the concerns or recommendations that were made in prior program review cycles, including any feedback from Dean/VP, Program Review Committee, etc.

Recommendation	Comments
1. No particular concerns	

a. After reviewing the data, what would you like to highlight about your program?

Great adjunct faculty and good relations among all faculty.

Section 9: Feedback and Follow Up

This section is for the Dean to provide feedback.

a. Strengths and successes of the program as evidenced by the data and analysis:

The Economics Program at Foothill College is an outstanding academic discipline at Foothill College that has grown over the past five years due to the dedication and excellence of its two full time faculty members and due to high quality part-time faculty who provide excellent instruction to Foothill students. The program has recently put in its State application for an ADT in Economics which has the potential to serve many students in the future. Program productivity is exception at 610.

b. Areas of concern, if any:

No areas of concern. The faculty state they have not made any changes due to assessment of program learning outcomes, but the program faculty do constantly evaluate the quality of their offerings and make changes where needed. An example is in Fall Quarter the full time faculty tested a proctored final exam for online classes to address concerns about academic dishonesty.

c. Recommendations for improvement:

Due to high enrollment and high productivity the program is in need of an additional full time faculty position. This has been prioritized by the BSS Division and by PaRC last year.

d. Recommended next steps:

- Proceed as planned on program review schedule
- Further review/Out of cycle in-depth review

Upon completion of section 9, the Program Review should be returned to department faculty and staff for review, then submitted to the Office of Instruction and Institutional Research for public posting. See timeline on Program Review Cover Sheet.

Unit Course Assessment Report - Four Column

Foothill College Department - Economics (ECON)

Mission Statement: The mission of the Economics Department is to provide students with an underpinning of economic theory and critical thinking in preparation for future academic and workplace environments.

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>Department - Economics (ECON) - ECON 1A - PRINCIPLES OF MACROECONOMICS - SLO 1 - Supply and Demand - Employ the supply and demand model to predict market responses to shocks. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method:</p> <p>a) Draw Supply and Demand curves for apples in a competitive market. Label the curves, axes and equilibrium price and quantity.</p> <p>b) Illustrate the short-run response if experts discover that the pesticide used on apples (only) causes cancer, and the price of pears increases. Identify the new equilibrium price and quantity. Explain your shifts. (Instructors are free to change the market and the shifters but should continue to use 2 shifters in the assessment.)</p> <p>Target for Success:</p> <p>a) 60% b) 60%</p>	<p>04/22/2014 - The average scores of the 5 instructors who taught this course were: a) 8.3 b) 6.6. Students performed well on this SLO. On the graphical portion, the majority of students performed admirably. However, on the written portion of the SLO, some of the explanations students provided were overly simplified, while other students did not provide one at all.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None</p> <p>GE/IL-SLO Reflection: Spend additional class time on explaining any dynamic elements taking place within a Supply/Demand Model, and provide exercises where students have to not only graph the model, but more importantly explain what is happening within it.</p>	<p>04/22/2014 - The Faculty were satisfied with the results.</p> <hr/>
<p>Department - Economics (ECON) - ECON 1A - PRINCIPLES OF MACROECONOMICS - SLO 2 - Government Interference - Illustrate and explain unintended consequences resulting from government interference in well-functioning markets. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method:</p> <p>a) Illustrate an effective price ceiling on milk in a supply and demand diagram. Clearly indicate any shifts of curves (if any). Clearly label any excess supply or demand (if any). (Instructors are free to change the market and may also ask about a price floor.)</p> <p>b) In addition to what is evident from the graph, provide at least one more example of how consumers or producers will respond to the price control. (Instructors may ask about a specific consequence if they choose for</p>	<p>04/22/2014 - The average scores for the 5 instructors who taught this course was: a) 6.7 b) 4.4. Students performed below target on the second part of this SLO. The majority of students were often able to graph the model correctly. However, they often mislabeled, confused price ceilings and price floors, and/or failed to provide an adequate explanation regarding the possible responses by both producers and consumers to the price control.</p> <p>Result: Target Not Met</p>	<p>04/22/2014 - Faculty might consider spending additional time on supply and demand concepts, focusing special attention on price ceilings and price floors. Faculty may want to assign exercises where the students not only graph the model out, but also explain what is taking place within the model.</p> <hr/>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	<p>this question. For example, is this price floor well-targeted to low-income families? Is there an allocation problem here?</p> <p>Target for Success: a) 60% b) 60%</p>	<p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None</p> <p>GE/IL-SLO Reflection: Students' written communication and critical thinking skills were somewhat weak on this particular SLO.</p>	
<p>Department - Economics (ECON) - ECON 1A - PRINCIPLES OF MACROECONOMICS - SLO 3- Aggregate economy - Illustrate and critically assess the aggregate economy using a macroeconomic model or models.</p> <p>(Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: a) Draw the AS/AD Model used in class assuming the U.S. economy is in long-run equilibrium. Label all curves and axes. b) Illustrate and explain what happens in the U.S. AS/AD Model if an economic expansion occurs in Europe.</p> <p>Target for Success: a) 60% b) 60%</p>	<p>04/22/2014 - The average scores for the 5 instructors who taught this course were: a) 8.0 b) 6.5. Overall, the students performed quite well on this particular SLO. They scored above target on both Part A and Part B. The majority of students were able to successfully illustrate the AS/AD Model. However, some students failed to show the correct shifts in the curves. Additionally, some of their explanations lacked sufficient detail and accuracy (i.e., failed to mention a recessionary gap developing as a result of a drop in exports to Europe, the effects of the recessionary gap on the U.S. Economy, etc.)</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None</p> <p>GE/IL-SLO Reflection: Students' written communication and critical thinking skills were somewhat weak on this particular SLO. However, overall, the faculty were satisfied with the results.</p>	<p>04/22/2014 - Faculty may want to spend additional time on aggregate supply and aggregate demand concepts, focusing special attention on the aggregate model and what the individual components/curves represent. Additionally, faculty might consider introducing exercises where the students not only graph the model out, but also explain what is taking place within the model.</p>
<p>Department - Economics (ECON) - ECON 1A - PRINCIPLES OF MACROECONOMICS - SLO 4 - Fiscal and monetary policy - Analyze and critically assess the effectiveness of fiscal and monetary policy</p>	<p>Assessment Method: Instructors are free to choose one of the following questions: 1) Briefly assess the effectiveness of fiscal</p>	<p>04/22/2014 - The average score of the 5 instructors who taught this course were: 6.2. Overall, students scored reasonably well on this question. However, some students struggled with their written responses, often not being able to</p>	<p>04/22/2014 - Faculty might consider spending additional time on monetary and fiscal policy as they relate to inflation, unemployment, and the business cycle. Faculty may</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>and their relationship to inflation, unemployment, and the overall business cycle. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>and monetary policy as it relates to the goals of stabilizing inflation, unemployment and the business cycle.</p> <p>OR -</p> <p>2) Clearly explain the economic significance of the phrase, "You can't push on a string."</p> <p>OR -</p> <p>3) Should the government undertake stabilization policies? Provide arguments for and against.</p> <p>Target for Success: 60%</p>	<p>articulate several pros and cons of fiscal and monetary policy or suggesting fiscal policy is the most frequently used tool to modulate the business cycle, etc.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None</p> <p>GE/IL-SLO Reflection: Students' written communication and critical thinking skills were somewhat weak on this particular SLO.</p>	<p>want to assign exercises that prompt students to explain how these policy tools relate to inflation, unemployment, and the business cycle. By doing so, these exercises could potentially help students achieve a deeper level of understanding of the material.</p> <hr/>
<p>Department - Economics (ECON) - ECON 1B - PRINCIPLES OF MICROECONOMICS - SLO 1 - Supply and Demand - Employ the supply and demand model to predict market responses to shocks. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method:</p> <p>a) Draw Supply and Demand curves for apples in a competitive market. Label the curves, axes and equilibrium price and quantity.</p> <p>b) Illustrate the short-run response if experts discover that the pesticide used on apples (only) causes cancer, and the price of pears increases. Identify the new equilibrium price and quantity. Explain your shifts. (Instructors are free to change the market and the shifters but should continue to use 2 shifters in the assessment.)</p> <p>Target for Success: 60%</p>	<p>04/20/2014 - Average instructor results for all face to face sections:</p> <p>1a: 8.4 1b: 5.3</p> <p>Average instructor results for all online sections:</p> <p>1a: 7.5 1b: 5.5</p> <p>We were clearly happy with the results for part a. The results for part b were less satisfying. One instructor (who got a 3.2 avg for part b) stated he had never done two shifts during class lectures or worksheets. Thus his students were particularly confused... he will address this going forward to see if his students improve.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: none</p>	<p>04/20/2014 - Again, one instructor will change his in-class guidance.</p> <hr/>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>Department - Economics (ECON) - ECON 1B - PRINCIPLES OF MICROECONOMICS - SLO 2 - Government Interference - Illustrate and explain unintended consequences resulting from government interference in well-functioning markets. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method:</p> <p>a) Illustrate an effective price ceiling on milk in a supply and demand diagram. Clearly indicate any shifts of curves (if any). Clearly label any excess supply or demand (if any). (Instructors are free to change the market and may also ask about a price floor.)</p> <p>b) In addition to what is evident from the graph, provide at least one more example of how consumers or producers will respond to the price control. (Instructors may ask about a specific consequence if they choose for this question. For example, ?Is this price floor well-targeted to low-income families?, Is there an allocation problem here (discuss)??)</p> <p>Target for Success: 60%</p>	<p>04/20/2014 - Face to face averages: 2a: 5.8 2b: 5.2</p> <p>Online: 2a: 5.2 2b: 4.9</p>	<p>04/20/2014 - Continued effort to create deeper understanding of price controls.</p>
<p>Department - Economics (ECON) - ECON 1B - PRINCIPLES OF MICROECONOMICS - SLO 3 - Market structures - Analyze different market structures from both a short-run and long-run perspective. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method:</p> <p>Consider the following profit maximizing monopolist. (graph)</p> <p>a. Show the profit maximizing price and output.</p> <p>b. Carefully outline and shade in the profits.</p> <p>c. At what price would revenue be maximized (indicate on graph with Pr)</p> <p>Target for Success:</p> <p>a) 60% b) 60% c) none</p>	<p>04/20/2014 - Face to face: 3a) 6.9 3b) 5.8 3c) 1.5</p> <p>Online 3a) 5 3b) 3.8 3c) 0.5</p>	<p>04/20/2014 - I personally teach an online class and I am going to create short videos illustrating the relevant graphs for my students to watch in the coming year.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
		<p>was not met). It is too much to go into detail here the difficulties of teaching effectively online - but clearly we need to continue to explore strategies.</p> <p>Result: Target Not Met</p> <p>Year This Assessment Occurred: 2013-2014</p>	
<p>Department - Economics (ECON) - ECON 1B - PRINCIPLES OF MICROECONOMICS - SLO 4 - Cost-benefit analysis - Effectively employ marginal cost-benefit analysis to arrive at an efficient outcome. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Consider this profit-maximizing firm competing in a perfectly competitive market with a market price of \$5. Should the firm have produced the 40th unit? Explain using economic terminology.</p> <p>Target for Success: 60%</p>	<p>04/20/2014 - Face to face: 6.1 Online: 6.3</p> <p>Decent scores. Target met.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p>	<p>04/20/2014 - none</p>
<p>Department - Economics (ECON) - ECON 25 - INTRODUCTION TO THE GLOBAL ECONOMY - SLO 1 - Free Trade - Employ economic models to illustrate the benefits of free trade. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Consider the two-country world below. Point A represents autarky production and consumption for each.... Which country has a comparative advantage in wine? Explain using numbers.</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: 6/10</p>	<p>04/20/2014 - The average score for part a was 8.0 (n = 22). This is a very acceptable score... the students clearly grasped the conceptual framework to illustrate comparative advantage. The average score for part b was 4.8 ... while this is below 6 (the stated target) this is primarily because of the somewhat "tricky" nature of the answer (one country is neither hurt nor helped by trade... and students were docked points if they did not note this in their graphical answer - most students got the logic correct but did not carefully plot the consumption point correctly - resulting in scores which do not quite reflect their understanding of the underlying concepts.)</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: none</p> <p>Resource Request: none</p>	<p>04/20/2014 - The students scored very well. Continue as before.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>Department - Economics (ECON) - ECON 25 - INTRODUCTION TO THE GLOBAL ECONOMY - SLO 2- Protectionist arguments - Assess the relative merits of protectionist arguments. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Aside from universally deplorable policies such as slavery and apartheid, explain the WTO position and logic concerning the inclusion of labor standards in trade agreements.</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: 6/10</p>	<p>04/20/2014 - The average score was 7.4 (n = 22). Quite good. The scores were somewhat bi-modal... lots of 10 and a few 0s. So while most students "got it" there were a few that missed the main point.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: none</p>	<p>04/20/2014 - Perhaps reinforce these points one more time during the review for the test (?).</p>
<p>Department - Economics (ECON) - ECON 25 - INTRODUCTION TO THE GLOBAL ECONOMY - SLO 3 - Foreign exchange market - Analyze shocks to the foreign exchange market using a supply and demand diagram. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Consider teh S&D diagram of \$US (in terms of Mexican pesos). Assume the Mexican Central Bank lowers interest rates. Show and explain the impact on the S&D graph.</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: 6/10</p>	<p>04/20/2014 - The average score (n = 22) was 6.5. This meets our target... but is a little close.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: none</p>	<p>04/20/2014 - No particular action plan needed. Will reinforce exchange rate graph with in-class worksheet.</p>
<p>Department - Economics (ECON) - ECON 36 - SPECIAL PROJECTS IN ECONOMICS - 1 - Critical Economic Thinking - A successful student will be able to use economic thinking and logic to explain and critically assess different perspectives pertaining to the issue under study. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: This class was used as a way to expose students to different social entrepreneurs tackling the issue of global poverty - with an aim toward having students assist in some small way.</p> <p>Assessment Method Type: Discussion/Participation</p> <p>Target for Success: Active participation</p>		
<p>Department - Economics (ECON) - ECON 54H - HONORS INSTITUTE SEMINAR IN ECONOMICS - SLO 1 - Economic reasoning</p>	<p>Assessment Method: Quizzes based on the lectures and readings covering the current topic will be created.</p>		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>- Students will be able to employ economic reasoning to a current economic topic. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>(Note that topics change frequently in this class)</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: 60%</p>		
<p>Department - Economics (ECON) - ECON 54H - HONORS INSTITUTE SEMINAR IN ECONOMICS - SLO 2 - Understanding - Students will be able to exhibit understanding of an economic concept discussed in class. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Quizzes based on the lectures and readings covering the current topic will be created. (Note that topics change frequently in this class)</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: 60%</p>		
<p>Department - Economics (ECON) - ECON 70H - DEPARTMENT HONORS PROJECTS IN ECONOMICS - Critical economic thinking - Use economic thinking and logic to explain and critically assess different perspectives pertaining to the issue under study. (Created By Department - Economics (ECON))</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Oversee individual student work... topics vary with every student and are largely based on student interests.</p> <p>Assessment Method Type: Observation/Critique</p> <p>Target for Success: Faculty determination of individual student work.</p>		
<p>Department - Economics (ECON) - ECON 9 - POLITICAL ECONOMY - SLO 1 - International political economy - Critically analyze contending theoretical formulations of the International Political Economy. (Created By Department - Economics (ECON))</p> <p>Assessment Cycles: End of Academic Year</p> <p>Start Date: 09/23/2013</p> <p>End Date:</p>	<p>Assessment Method: Midterm examination consisting of objective-type questions as well as essay questions.</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: The class achieves an average score of 70%.</p>	<p>12/13/2013 - "This course taught in Fall Quarter 2013 had the most unusual group of students I have taught at Foothill College since the 1990's. I was so impressed with their overall performance in class activities and assignments that I invited Dean Hueg to visit the class and observe for himself how unusual they were.</p> <p>Both the Honors and Non-Honors students attend the same class, receive the same instruction, participate in the same activities, do the same assignments except for the critical, analytical research paper assignment. Honors students write</p>	<p>10/09/2014 - Continue to monitor and assess student progress related to the SLO, and provide feedback/assistance in a timely manner.</p> <hr/> <p>10/07/2013 - Continue to monitor and assess student progress related to the SLO, and provide feedback/assistance in a timely manner.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>08/29/2014</p> <p>Course-Level SLO Status: Active</p>		<p>a 20 page critical, analytical research paper and Non-Honors students a 15 page paper. Flexibility is provided for an Honors and a non-Honors student to write a research paper together. However, if an Honors and a Non-Honors student choose to write a paper together, that paper must be 20 pages of content with Works Cited in addition.</p> <p>Some 80% of the Honors students were well prepared for college. They demonstrated strong analytical, research and writing skills and were well focused on their academic and professional lives particularly in transferring to some of the finest universities in the US. The majority of non-Honors students on the other hand were inadequately prepared for college: poor study skills, time management problems, difficulties understanding material and unable to undertake research assignments, and inadequate writing and analytical skills.</p> <p>Pairing Honors with Non-Honors within the class and making them work together both in leading specific seminar topics and allowing for the opportunity for groups of two to write the research paper assignment together helped to "raise up" those students who did not have the requisite skill level of preparation for college.</p> <p>Constantly pushing students to strive for excellence in their work and to make excellence the hallmark in all they do, seems to have helped in motivating everyone to work hard at exceeding even the expectations they held of themselves. Working closely with all students in conceptualizing their research paper topic, researching the literature and then formulating the paper coherently and logically seems to have worked well for everyone. In the end, over 80% of students earned letter grades of B and higher. Over 50% of these students enrolled in other classes in Winter and Spring, performed quite well and have now transferred to universities like NYU, UC's, Georgetown, UPenn and others.</p>	<p>09/20/2012 - Continue monitoring student ability to master the SLOs</p> <p>10/07/2011 - To help improve student success on the written questions, there will be more emphasis placed on discussion of key concepts in the course, as well as inclass exercises to provide students an opportunity to articulate their understand/comprehension of the concepts in written form, and share their responses with fellow students an the instructor.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
		<p>This unusual group of students have so far remained the finest I have worked with since the 1990's."</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None.</p> <p>GE/IL-SLO Reflection: Students seem to be showing improvement in the areas of critical thinking and communication from a year ago.</p>	
<p>Department - Economics (ECON) - ECON 9</p> <p>- POLITICAL ECONOMY - SLO 2- development and underdevelopment - Critically analyze contending theoretical formulations on Development and Underdevelopment. (Created By Department - Economics (ECON))</p> <p>Assessment Cycles: End of Academic Year</p> <p>Start Date: 09/23/2013</p> <p>End Date: 08/29/2014</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Midterm examination.</p> <p>Assessment Method Type: Exam - Course Test/Quiz</p> <p>Target for Success: The class achieves an average score of 70%.</p>	<p>12/13/2013 - "This course taught in Fall Quarter 2013 had the most unusual group of students I have taught at Foothill College since the 1990's. I was so impressed with their overall performance in class activities and assignments that I invited Dean Hueg to visit the class and observe for himself how unusual they were.</p> <p>Both the Honors and Non-Honors students attend the same class, receive the same instruction, participate in the same activities, do the same assignments except for the critical, analytical research paper assignment. Honors students write a 20 page critical, analytical research paper and Non-Honors students a 15 page paper. Flexibility is provided for an Honors and a non-Honors student to write a research paper together. However, if an Honors and a Non-Honors student choose to write a paper together, that paper must be 20 pages of content with Works Cited in addition.</p> <p>Some 80% of the Honors students were well prepared for college. They demonstrated strong analytical, research and writing skills and were well focused on their academic and professional lives particularly in transferring to some of the finest universities in the US. The majority of non-</p>	<p>10/09/2014 - Continue to monitor and assess student progress related to the SLO, and provide feedback/assistance in a timely manner.</p> <p>06/28/2013 - Continue to monitor and assess student progress related to the SLO, and provide feedback/assistance in a timely manner.</p> <p>09/20/2012 - Continue monitoring student ability to master the SLOs</p> <p>10/07/2011 - To help improve student success on the written questions, there will be more emphasis placed on discussion of key concepts in the course, as well as inclass exercises to provide students an opportunity to articulate</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
		<p>Honors students on the other hand were inadequately prepared for college: poor study skills, time management problems, difficulties understanding material and unable to undertake research assignments, and inadequate writing and analytical skills.</p> <p>Pairing Honors with Non-Honors within the class and making them work together both in leading specific seminar topics and allowing for the opportunity for groups of two to write the research paper assignment together helped to "raise up" those students who did not have the requisite skill level of preparation for college.</p> <p>Constantly pushing students to strive for excellence in their work and to make excellence the hallmark in all they do, seems to have helped in motivating everyone to work hard at exceeding even the expectations they held of themselves.</p> <p>Working closely with all students in conceptualizing their research paper topic, researching the literature and then formulating the paper coherently and logically seems to have worked well for everyone. In the end, over 80% of students earned letter grades of B and higher. Over 50% of these students enrolled in other classes in Winter and Spring, performed quite well and have now transferred to universities like NYU, UC's, Georgetown, UPenn and others.</p> <p>This unusual group of students have so far remained the finest I have worked with since the 1990's."</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None.</p> <p>GE/IL-SLO Reflection: Students are showing an improvement in the areas of critical thinking and communication from a year ago.</p>	<p>their understand/comprehension of the concepts in written form, and share their responses with fellow students an the instructor.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>Department - Economics (ECON) - ECON 9H - HONORS POLITICAL ECONOMY - SLO 1 - International political economy - Critically analyze contending theoretical formulations of the International Political Economy. (Created By Department - Economics (ECON))</p> <p>Assessment Cycles: End of Academic Year</p> <p>Start Date: 09/23/2013</p> <p>End Date: 08/29/2014</p> <p>Course-Level SLO Status: Active</p>	<p>Assessment Method: Honors students were required to write a 20 page research paper.</p> <p>Assessment Method Type: Research Paper</p> <p>Target for Success: The class achieves an average score of 70%.</p>	<p>10/09/2014 - "This course taught in Fall Quarter 2013 had the most unusual group of students I have taught at Foothill College since the 1990's. I was so impressed with their overall performance in class activities and assignments that I invited Dean Hueg to visit the class and observe for himself how unusual they were. Both the Honors and Non-Honors students attend the same class, receive the same instruction, participate in the same activities, do the same assignments except for the critical, analytical research paper assignment. Honors students write a 20 page critical, analytical research paper and Non-Honors students a 15 page paper. Flexibility is provided for an Honors and a non-Honors student to write a research paper together. However, if an Honors and a Non-Honors student choose to write a paper together, that paper must be 20 pages of content with Works Cited in addition. Some 80% of the Honors students were well prepared for college. They demonstrated strong analytical, research and writing skills and were well focused on their academic and professional lives particularly in transferring to some of the finest universities in the US. The majority of non-Honors students on the other hand were inadequately prepared for college: poor study skills, time management problems, difficulties understanding material and unable to undertake research assignments, and inadequate writing and analytical skills. Pairing Honors with Non-Honors within the class and making them work together both in leading specific seminar topics and allowing for the opportunity for groups of two to write the research paper assignment together helped to "raise up" those students who did not have the requisite skill level of preparation for college. Constantly pushing students to strive for excellence in their work and to make excellence the hallmark in all they do, seems to have helped in motivating everyone to</p>	<p>10/09/2014 - Continue to closely monitor and assess student progress related to the SLO, and provide timely feedback/assistance.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
		<p>work hard at exceeding even the expectations they held of themselves. Working closely with all students in conceptualizing their research paper topic, researching the literature and then formulating the paper coherently and logically seems to have worked well for everyone. In the end, over 80% of students earned letter grades of B and higher. Over 50% of these students enrolled in other classes in Winter and Spring, performed quite well and have now transferred to universities like NYU, UC's, Georgetown, UPenn and others. This unusual group of students have so far remained the finest I have worked with since the 1990's."</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: None.</p> <p>GE/IL-SLO Reflection: Students appear to be showing great improvement in the areas of critical thinking and communication from a year ago.</p>	
<p>Department - Economics (ECON) - ECON 9H - HONORS POLITICAL ECONOMY - SLO 2 - Development and Underdevelopment - Critically analyze contending theoretical formulations on Development and Underdevelopment. (Created By Department - Economics (ECON))</p> <p>Assessment Cycles: End of Academic Year</p> <p>Start Date: 09/23/2013</p> <p>End Date: 08/29/2014</p> <p>Course-Level SLO Status:</p>	<p>Assessment Method: Honors students were required to write a 20 page research paper.</p> <p>Assessment Method Type: Research Paper</p> <p>Target for Success: The class achieves an average score of 70%.</p>	<p>10/09/2014 - "This course taught in Fall Quarter 2013 had the most unusual group of students I have taught at Foothill College since the 1990's. I was so impressed with their overall performance in class activities and assignments that I invited Dean Hueg to visit the class and observe for himself how unusual they were. Both the Honors and Non-Honors students attend the same class, receive the same instruction, participate in the same activities, do the same assignments except for the critical, analytical research paper assignment. Honors students write a 20 page critical, analytical research paper and Non-Honors students a 15 page paper. Flexibility is provided for an Honors and a non-Honors student to write a</p>	<p>10/09/2014 - Continue to closely monitor and assess student progress related to the SLO, and provide timely feedback/assistance.</p>

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
Active		<p>research paper together. However, if an Honors and a Non-Honors student choose to write a paper together, that paper must be 20 pages of content with Works Cited in addition. Some 80% of the Honors students were well prepared for college. They demonstrated strong analytical, research and writing skills and were well focused on their academic and professional lives particularly in transferring to some of the finest universities in the US. The majority of non-Honors students on the other hand were inadequately prepared for college: poor study skills, time management problems, difficulties understanding material and unable to undertake research assignments, and inadequate writing and analytical skills. Pairing Honors with Non-Honors within the class and making them work together both in leading specific seminar topics and allowing for the opportunity for groups of two to write the research paper assignment together helped to "raise up" those students who did not have the requisite skill level of preparation for college. Constantly pushing students to strive for excellence in their work and to make excellence the hallmark in all they do, seems to have helped in motivating everyone to work hard at exceeding even the expectations they held of themselves. Working closely with all students in conceptualizing their research paper topic, researching the literature and then formulating the paper coherently and logically seems to have worked well for everyone. In the end, over 80% of students earned letter grades of B and higher. Over 50% of these students enrolled in other classes in Winter and Spring, performed quite well and have now transferred to universities like NYU, UC's, Georgetown, UPenn and others. This unusual group of students have so far remained the finest I have worked with since the 1990's."</p> <p>Result: Target Met Year This Assessment Occurred:</p>	

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
		<p>2013-2014</p> <p>Resource Request: None.</p> <p>GE/IL-SLO Reflection: Students appear to be showing improvement in the areas of critical thinking and communication from a year ago.</p>	

Unit Assessment Report - Four Column

Foothill College Program (BSS-ECON) - Economics AA

PL-SLOs	Means of Assessment & Target / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
<p>Program (BSS-ECON) - Economics AA - 1 - Have a working understanding of the role of prices in a market economy, the benefits of trade, economic growth and stability, market structures and competition, market failures and the economic role of government.</p> <p>SLO Status: Active</p>	<p>Assessment Method: We have a 14 point quiz consisting of 10 multiple choice questions (1 pt each) and 2 2-point questions - one a supply and demand shift and one a marginal benefit-marginal cost assessment.</p> <p>We are giving the exam to one intro class at the beginning of the quarter ONLY to students that have not had any college economics yet. We are then giving the same exam to students in Econ 25 toward the end of the quarter who have also completed both Econ 1A and Econ 1B at Foothill. Obviously the 2nd pool of students will be much smaller.</p> <p>Assessment Method Type: Exam - Standardized</p> <p>Target: For students that have completed our econ courses we expect to achieve at least 60% on the quiz.</p>	<p>09/24/2014 - Econ students (n=11) scored 75% on the exam while incoming students scored 34% (n=37). We feel this magnitude of improvement shows that our students are retaining basic economic principles.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: none</p> <p>GE/IL-SLO Reflection: This degree addresses all four Cs, but this assessment specifically targets Computation, whereas ECON students use decision analysis (synthesis and evaluation) and apply mathematical concepts and reasoning, and ability to analyze and use numerical data.</p>	<p>09/24/2014 - no action needed as we satisfied.</p>
<p>Program (BSS-ECON) - Economics AA - 2 - Employ economic reasoning to explain the world around them and make objective decisions based on assessments of costs and benefits.</p> <p>SLO Status: Active</p>	<p>Assessment Method: We have a 14 point quiz consisting of 10 multiple choice questions (1 pt each) and 2 2-point questions - one a supply and demand shift and one a marginal benefit-marginal cost assessment.</p> <p>We are giving the exam to one intro class at the beginning of the quarter ONLY to students that have not had any college economics yet. We are then giving the same exam to students in Econ 25 toward the end of the quarter who have also completed both</p>	<p>09/24/2014 - Again, econ students scored significantly higher than their non-econ peers on the assessment test.</p> <p>Result: Target Met</p> <p>Year This Assessment Occurred: 2013-2014</p> <p>Resource Request: none</p> <p>GE/IL-SLO Reflection: This degree addresses all four Cs, but this assessment specifically targets Computation, whereas ECON students use</p>	<p>09/24/2014 - no action needed as we are satisfied with the results.</p> <p>09/24/2014 - We were satisfied with the clear improvement that Econ students showed in the exam.</p>

PL-SLOs	Means of Assessment & Target / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	<p>Econ 1A and Econ 1B at Foothill. Obviously the 2nd pool of students will be much smaller.</p> <p>Target: Students finishing their Foothill Econ studies: <u>60%</u></p>	<p>decision analysis (synthesis and evaluation) and apply mathematical concepts and reasoning, and ability to analyze and use numerical data.</p>	