### Inventory of Educational Effectiveness Indicators: Economics, September, 2013

<table>
<thead>
<tr>
<th>Academic Program</th>
<th>(1) Have formal learning outcomes been developed?</th>
<th>(2) What are these learning outcomes? Where are they published? (Please specify)</th>
<th>(3) Other than GPA, what data/evidence is used to determine that graduates have achieved stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)</th>
<th>(4) Who interprets the evidence? What is the process?</th>
<th>(5) How are the findings used?</th>
<th>(6) Date of last Academic Senate Review?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department:</strong></td>
<td><strong>Economics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Major:</strong></td>
<td><strong>B.A. in Economics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Students graduating with the degree should be able to:</td>
<td>Data/Evidence:</td>
<td>Undergraduate Affairs Committee and Vice-Chair for Undergraduate Education oversee requirements, which are endorsed by full faculty.</td>
<td>Individual course instructors use feedback to modify their classes.</td>
<td>1997-98 (previous)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Apply the formal methods used by statisticians to analyze data to learn about the real world.</td>
<td>* In the upper and lower core course sequences, faculty teaching later in the sequence assess whether students have learned the material from the previous courses in the sequence.</td>
<td>At the end of each academic year, the Vice Chair solicits faculty feedback regarding the core curriculum and reports findings to the Undergraduate Affairs Committee. Minor adjustments are made if necessary and approved by the faculty. Major changes are approved by the full faculty and UGC.</td>
<td>Internally the department adjusts requirements and course sequences for the major.</td>
<td>2008-09 (current)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Use basic econometric methods to quantify uncertainty with confidence intervals; use regression to infer causal relationships; and use regressions for prediction.</td>
<td>* Faculty teaching the advanced electives determine whether students have learned the upper division core material.</td>
<td>The Vice-Chair for Undergraduate Education acts on all requests/petitions for variation of requirements.</td>
<td>UGC approves any changes to the major requirements.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Critically interpret empirical studies</td>
<td>* Faculty teaching the standard electives and the upper division core courses determine whether the students have learned the lower division core material.</td>
<td>UGC acts on all departmental requests for changes in courses and requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Set up, solve and analyze optimization models</td>
<td>* Exit surveys of graduating seniors provide evidence about strengths and weakness of the program.</td>
<td>UGC Review Committee reviews all majors and minors offered by the department and makes recommendations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Apply optimization models to consumer, producer, and market theories</td>
<td>* Minimum of 52 units of upper division economics coursework.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Use game theory to analyze the strategic behavior of individuals and firms</td>
<td>* Required upper division courses in microeconomics, macroeconomics and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Build macroeconomic models.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Apply macroeconomic models to understand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Major: B.S. in Management Science

#### Learning outcomes published:
- UCSD Course Catalogue
- [http://economics.ucsd.edu/](http://economics.ucsd.edu/)
- Core course sequence descriptions in the Department.
- Course syllabi
- Articulation Agreements with California Community Colleges (project IMPAC)

#### Students graduating with the degree should be able to:
1. **Apply the formal methods used by statisticians to analyze data to learn about the real world.**
2. **Use basic econometric methods to quantify uncertainty with confidence intervals; use regression to infer causal relationships; and use regressions for prediction.**
3. **Critically interpret empirical studies**
4. **Set up, solve and analyze optimization models with more than one constraint.**
5. **Apply optimization models to consumer, producer, and market theories**
6. **Use game theory to analyze the strategic behavior of individuals and firms.**

**Same as above except:**
- Minimum of 60 units of upper division economics coursework.
- Required upper division courses in microeconomics, econometrics, finance, operations research, and decisions under uncertainty.
- Outcomes 1-3 are met by successfully completing Econ 120A-B-C.
- Outcomes 4-6 are met by successfully completing Econ 100A-B-C.
- Outcome 7 is met by successfully completing Econ 173A-B.
- Outcome 8 is met by successfully completing Econ 172A-B.

**Same as above**
7. Determine the value of various financial assets and liabilities under uncertainty.

8. Translate an economic problem into an appropriate mathematical model; describe solution techniques; and interpret the solutions to mathematical problems in economic terms.

---

**Learning outcomes published:**

Same as above

---

**Major:**

*B.S. in Joint Mathematics-Economics*

---

1. Apply the formal methods used by statisticians to analyze data to learn about the real world.

2. Use basic econometric methods to quantify uncertainty with confidence intervals; use regression to infer causal relationships; and use regressions for prediction.

3. Critically interpret empirical studies

4. Set up, solve and analyze optimization models.

5. Apply optimization models to consumer, producer, and market theories.

6. Use game theory to analyze the strategic behavior of individuals and firms.

[Same as the above except:]

- Minimum of 28 units of upper division economics coursework.
- Minimum of 28 units of upper division mathematics coursework.
- Minimum of 60 units of upper division economics and mathematics coursework combined.
- Required upper division courses in microeconomics, econometrics, finance, operations research, and decisions under uncertainty.
- Outcomes 1-3 are met by successfully completing Econ 120A (or Math 180A), 120B-C.
- Outcomes 4-6 are met by successfully completing Econ 100A-B-C.

[Undergraduate Affairs Committee and Vice-Chairs for Undergrad Education in both the mathematics and economics departments oversee requirements, which are endorsed by full faculty.]

- Minor adjustments are made if necessary and approved by the faculty. Major changes are approved by the full faculty and UGC.

- The Vice-Chairs for Undergrad Education in both the mathematics and economics departments act on all requests/petitions for variation of requirements.

- UGC approves any changes to the major requirements.

- Individual course instructors use feedback to modify their classes.

- Internally the departments of Economics and Mathematics adjust requirements and course sequences for the major.

UGC Review Committee reviews all majors and minors offered by the department and makes recommendations.
<table>
<thead>
<tr>
<th>Learning outcomes published:</th>
<th>Outcome 7 is met by successfully completing Math 109 and either Math 140A or Math 142A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same as above</td>
<td></td>
</tr>
</tbody>
</table>