

GEOs

General Education Outcomes

What are they?

- A statement of what students can *do*, in terms of skills or abilities, as they exit the general education program.
- Similar to course-level SLOs, but they refer to the general education program, rather than a course.

GEOs

General Education Outcomes

Why bother?

- Many of us are devoting our professional lives to undergraduate general education.
- We should be curious whether it is having its intended affect or not.
- ACCJC standards require us to articulate and assess SLOs at the program level. The GE program is our biggest “program”.

GEOs

General Education Outcomes

What is a program?

- The ACCJC doesn't define a program.
- They leave it to us to decide.
- This is good because....

They aren't telling us what to do.

- This is bad because.....

It will take some effort for us to figure it out.

GEOs

General Education Outcomes

What did Cabrillo do?

- They said that that all the majors and emphasis areas in the transfer program essentially have the same student learning outcomes.
- And that these student learning outcomes are the General Education learning outcomes.
- Part of the rationale is that many transfer “majors” are not a sequence of courses that lead to the student being able to “do” something different than the SLOs of the individual courses that comprise the “major”.

GEOs

General Education Outcomes

For example the courses in the Geology “major” at MPC are:

Select at least 18 units from the following:

GEOL 2 Introductory Geology

CHEM 1A General Chemistry 1

CHEM 1B General Chemistry 2

MATH 20A Calculus I

MATH 20B Calculus II

PHYS 3A Physics I

PHYS 3B Physics II

The courses in the Economics “major” at MPC are:

ECON 2 Principles of Economics: Macro

ECON 4 Principles of Economics: Micro

MATH 16 Statistics

Select one course from the following:

MATH 18 Calculus and Analytical Geometry

MATH 20 A Calculus I

Select two courses from the following:

BUSI 1A Financial Accounting

CSIS 1 Intro to Computer Sci & Info Systems

POLS 1 American Government & Politics

OR POLS 10 Women in American Government

PSYC 1 General Psychology

The Nursing program, a CTE, non-transfer major, is very different.

Nursing

Prerequisite courses:

Math competency

ENGL 1A Composition and Analytical Reading

ANAT 1 General Human Anatomy

ANAT 2 General Anatomy Lab

BIOL 25 Applied Microbiology Lecture

BIOL 26 Applied Microbiology Lab

NURS 100 Pharmacology for Nursing

PHSO 1 General Human Physiology

PHOS 2 General Physiology Lab

PSYC 25 Child and Adult Development

Nursing Core Courses:

NURS 52A Nursing I

NURS 52B Nursing II

NURS 52C Nursing III

NURS 52D Nursing IV

Nursing is clearly a sequence of courses that will lead to program SLOs that result from taking all of these courses.

And the Nursing program has these program SLOs all figured out, as do most CTE programs.



Geology

Select at least 18 units from the following:

GEOL 2 Introductory Geology

CHEM 1A General Chemistry 1

CHEM 1B General Chemistry 2

MATH 20A Calculus I

MATH 20B Calculus II

PHYS 3A Physics I

PHYS 3B Physics II

Economics

ECON 2 Principles of Economics: Macro

ECON 4 Principles of Economics: Micro

MATH 16 Statistics

Select one course from the following:

MATH 18 Calculus and Analytical Geometry

MATH 20 A Calculus I

Select two courses from the following:

BUSI 1A Financial Accounting

CSIS 1 Intro to Computer Sci & Info Systems

POLS 1 American Government & Politics

OR POLS 10 Women in American Government

PSYC 1 General Psychology

In contrast,
Geology and Economics
are groups of courses
that do not logically
lead to program SLOs
that are different than
the individual course
SLOs.

GEOs

General Education Outcomes

So Cabrillo ignored discipline-specific program-level SLOs where the course-level SLOs tell the whole story.

And instead concentrated on GE SLOS for the transfer program.

GEOs

General Education Outcomes

But has Cabrillo been blessed by the accrediting agency?

Yes!

GEOs

General Education Outcomes

How are other colleges defining their GEOs?

By getting faculty together to define what general education student ought to be able to do when they're done.

What are some examples?

Cabrillo's Core Four

1. Communication
2. Critical Thinking and Information Competency
3. Global Awareness
4. Personal Responsibility and Professional Development

http://pro.cabrillo.edu/slos/4cores_tmp.htm

Mira Costa College GE Outcomes

1. Effective Communication
2. Critical Thinking
3. Global Awareness and Responsible Citizenship
4. Information Literacy
5. Aesthetic Literacy and Appreciation
6. Productive Work Habits

http://www.miracosta.cc.ca.us/Governance/Outcomes/GEProgramOutcomesAssessment_000.htm

Santa Rosa JC Institutional Outcomes

1. Foundational Skills
2. Personal Development and Management
3. Communication
4. Critical Analysis
5. Creativity
6. Intercultural Literacy and Interaction
7. Responsibility

Communication and Critical Thinking are consistent themes.

<http://www2.santarosa.edu/pages/project-learn/institutional-learning-outcomes.php>

Grossmont institutional Student Learning Outcomes

1. Effective communication
2. Scientific Inquiry
3. Mathematical Literacy
4. Informational and Technological Literacy
5. Productive Citizenry
6. Understanding of the Arts and Humanities
7. Cultural competence

At some colleges, GEOs and institutional SLOs are becoming one and the same.

http://www.grossmont.edu/student_learning_outcomes/pdfdocs/InstitutionalSLOs.pdf

General Education Outcomes (GEOs) aligned across disciplines

| GE Areas | | Hypothetical GEOs | | | | |
|---|--|-------------------|---------------|------------------|------------------------|------------------------|
| | | Critical Thinking | Communication | Global Awareness | Aesthetic Appreciation | Information Competency |
| Area A1: English Composition | | | | | | |
| The course: | | | | | | |
| English 1A | | X | X | | | |
| Area A2: Communication and Analytical Thinking | | | | | | |
| Example courses: | | | | | | |
| ENGL 2 | | X | X | | | |
| BUSC 22, 42 | | X | | X | | |
| MATH 26B, 10, 12 | | X | | | | |
| SPCH 1, 2, 3 | | | X | | | X |
| PHIL 6, 10 | | X | | | | |
| Area B: Natural Science | | | | | | |
| Example courses: | | | | | | |
| GEOL 2 | | X | | X | | |
| BIOL 10, 13 | | X | X | | | |
| ASTR 10 | | X | | X | | |
| CHEM 1A, 2 | | X | | | | X |
| PHYS 2A, 3A | | X | | | X | |
| Area C: Humanities | | | | | | |
| Example courses: | | | | | | |
| ART 1, 2 | | X | | | X | |
| GTRN 1, 2 | | | | | X | |
| PHIL 2, 4 | | | X | | X | |
| WOMN 6,9 | | X | | X | | |
| SPCH 4 | | | X | | | X |
| Area D: Social Studies | | | | | | |
| Example | | | | | | |

All colleges I've seen have designed the GEOs to be aligned across GE areas or disciplines.

Perhaps it provides some ownership of outcomes across varying IGETC, CSU, and AA GE patterns

But we worry that this model is cumbersome, confusing, and vague.

General Education Outcomes (GEOs) aligned across disciplines

| GE Areas | Hypothetical GEOs | | | | |
|---|-------------------|---------------|------------------|------------------------|------------------------|
| | Critical Thinking | Communication | Global Awareness | Aesthetic Appreciation | Information Competency |
| Area A1: English Composition | | | | | |
| The course: | | | | | |
| English 1A | X | X | | | |
| Area A2: Communication and Analytical Thinking | | | | | |
| Example courses: | | | | | |
| ENGL 2 | X | X | | | |
| BUSC 22, 42 | X | | X | | |
| MATH 26B, 10, 12 | X | | | | |
| SPCH 1, 2, 3 | | X | | | X |
| PHIL 6, 10 | X | | | | |
| Area B: Natural Science | | | | | |
| Example courses: | | | | | |
| GEOL 2 | X | | X | | |
| BIOL 10, 13 | X | X | | | |
| ASTR 10 | X | | X | | |
| CHEM 1A, 2 | X | | | | X |
| PHYS 2A, 3A | X | | | X | |
| Area C: Humanities | | | | | |
| Example courses: | | | | | |
| ART 1, 2 | X | | | X | |
| GTRN 1, 2 | | | | X | |
| PHIL 2, 4 | | X | | X | |
| WOMN 6,9 | X | | X | | |
| SPCH 4 | | X | | | X |
| Area D: Social Studies | | | | | |
| Example | | | | | |

All colleges I've seen have designed the GEOs to be aligned across GE areas or disciplines.

Would students become skilled at all outcomes as they navigate through the GE patterns?

We think the over-laying of GEOs across the GE areas adds a level of undesired complexity.

GEOs: Another Approach

- SLO committees want an approach that is:
 - Clear
 - Simple
 - Manageable
- We recommend: Align the GEOs with the already established GE areas

General Education Outcomes (GEOs) aligned with GE Areas

| GE Area | GE Outcome (GEO) |
|--|---|
| Area A1: English Composition The course: English 1A | Proposed Area A1 GEO: Proposed Area A1 SLO: form a provable thesis, develop it through factual research, distinguish between fact and opinion, and make effective rhetorical choices in relation to audience and purpose. |
| Area A2: Communication and Analytical Thinking Example courses: ENGL 2 BUSC 22, 42 MATH 263, 10, 12 SPCH 1, 2, 3 PHIL 6, 10 | Proposed Area A2 GEO: Analyze and evaluate complex issues or problems; draw reasoned conclusions and/or generate solutions; and effectively communicate their results. |
| Area B: Natural Science Example courses: GEOL 2 BIOL 10, 13 ASTR 10 CHEM 1A, 2 PHYS 2A, 3A | Proposed Area B SLO: Use the scientific method to investigate phenomena in the natural world and use concepts, theories and technology to explain them. |
| Area C: Humanities Example courses: ART 1, 2 GTRN 1, 2 PHIL 2, 4 WOMN 6,9 SPCH 4 | Possible Area C GEO: Analyze and interpret human thought and achievement relevant to such branches of knowledge as philosophy, literature, language, and/or art. |
| Area D: Social Studies Example courses: PSCL 1, 2, 3 ANTH 2, 4 BIOL 38 | Possible Area D GEO: Just a place holder might be: analyze interaction between humans using appropriate techniques. |

In this model, each GEO is aligned with a GE Area.

Each GEO is designed to be embedded into the courses that satisfy that particular GE Area.

Each instructor would then assess these GEOs as part of the normal SLO evaluation process.

This is designed to spur dialog between teachers of GE courses.

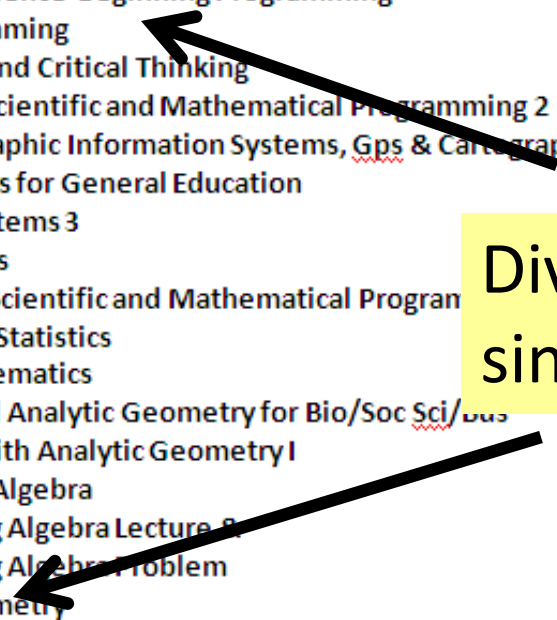


“Upon successful completion of this area, students will have demonstrated the ability to analyze and critically evaluate complex issues or problems; draw reasonable conclusions and/or generate appropriate solutions; and effectively communicate their results.”

- Courses that satisfy MPC GE Area A2, Communication & Analytical Thinking
- BUSI 22 Human Behavior/Leadership
 - BUSI 42 Human Resources Management
 - BUSI 110 Business Mathematics
 - CSIS 1 Introduction to Computer Science/Information Systems
 - CSIS 10A Computer Science-Beginning Programming
 - CSIS 16 Cobol Programming
 - ENGL 2 Composition and Critical Thinking
 - ENGR 14 Fortran for Scientific and Mathematical Programming 2
 - MAST 10 Intro/Geographic Information Systems, Gps & Cartography
 - MATH 10 Mathematics for General Education
 - MATH 12 Number Systems 3
 - MATH 13 Pre-Calculus
 - MATH 14 Fortran for Scientific and Mathematical Program
 - MATH 16 Elementary Statistics
 - MATH 17 Finite Mathematics
 - MATH 18 Calculus and Analytic Geometry for Bio/Soc Sci/Bus
 - MATH 20A Calculus with Analytic Geometry I
 - MATH 261 Beginning Algebra
 - MATH 261X Beginning Algebra Lecture 8
 - MATH 261P Beginning Algebra Problem
 - MATH 262 Plane Geometry
 - MATH 263 Intermediate Algebra and Coordinate Geometry
 - PERS 54 Leadership
 - PHIL 6 Introduction to Logic

- Course SLO Examples
- Discipline specific SLOs in black.
Communication and Analytical Thinking SLO in Blue.
- English 2, Composition and Critical Thinking**
1. Practice metacognition, demand evidence, insist on objective corroboration, and recognize logical fallacies in the consideration and development of course assignments.
 2. Apply basic concepts in semantics, differentiate between fact and opinion, and discriminate between ideological and disinterested sources to establish authenticity and reliability.
 3. Write papers that demonstrate the ability to summarize and analyze including critical thinking
- Math 10, Math for General Education**
1. Recognize mathematical applications in everyday life and demonstrate appropriate, relevant problem solving skills.
 2. Locate and utilize mathematical resources and technology while demonstrating reasoning and mathematical literacy.
 3. Analyze and critically evaluate complex issues or problems; draw reasonable conclusions and/or generate appropriate solutions; and effectively communicate their results.

Diverse Courses in a single GE Area



“Upon successful completion of this area, students will have demonstrated the ability to analyze and critically evaluate complex issues or problems; draw reasonable conclusions and/or generate appropriate solutions; and effectively communicate their results.”

Courses that satisfy MPC GE Area A2, Communication & Analytical Thinking

BUSI 22
BUSI 42
BUSI 11
CSIS 1 I
CSIS 10,
CSIS 16
ENGL 2
ENGR 1
MAST 1

All courses still have their individual, discipline-based, course-level SLOs.

MATH 10 Mathematics for General Education
MATH 12 Number Systems 3
MATH 13 Pre-Calculus
MATH 14 Fortran for Scientific and Mathematical Programming
MATH 16 Elementary Statistics
MATH 17 Finite Mathematics
MATH 18 Calculus and Analytic Geometry for Bio/Soc Sci/Bus

Same GEO is embedded into all courses in this GE Area.

Course SLO Examples

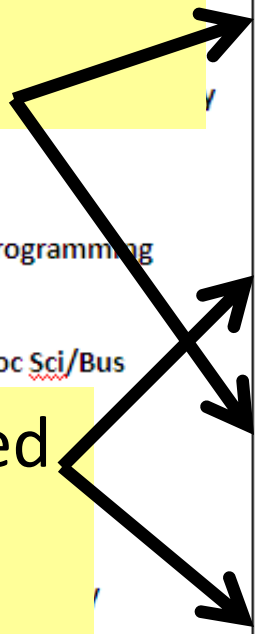
Discipline specific SLOs in black.
Communication and Analytical Thinking SLO in Blue.

English 2, Composition and Critical Thinking

1. Practice metacognition, demand evidence, insist on objective corroboration, and recognize logical fallacies in the consideration and development of course assignments.
2. Apply basic concepts in semantics, differentiate between fact and opinion, and discriminate between ideological and disinterested sources to establish authenticity and reliability.
3. Write papers that demonstrate the ability to summarize and analyze contending positions on controversial issues, including critical thinking itself.
4. Analyze and critically evaluate complex issues or problems; draw reasonable conclusions and/or generate appropriate solutions; and effectively communicate their results.

Math 10, Math for General Education

1. Recognize mathematical applications in everyday life and demonstrate appropriate, relevant problem solving skills.
2. Locate and utilize mathematical resources and technology while demonstrating reasoning and mathematical literacy.
3. Analyze and critically evaluate complex issues or problems; draw reasonable conclusions and/or generate appropriate solutions; and effectively communicate their results.



Reasons we're recommending this GEO model.

General Education Outcomes (GEOs) aligned with GE Areas

| GE Area | GE Outcome (GEO) |
|---|--|
| <p>Area A1: English Composition</p> <p>The course:</p> <p>English 1A</p> <p>} Proposed Area A1 GEO:</p> | <p>Proposed Area A1 SLO: form a provable thesis, develop it through factual research, distinguish between fact and opinion, and make effective rhetorical choices in relation to audience and purpose.</p> |
| <p>Area A2: Communication and Analytical Thinking</p> <p>Example courses:</p> <p>ENGL 2 BUSC 22, 42 MATH 263, 10, 12 SPOH 1, 2, 3 PHIL 6, 10</p> <p>} Proposed Area A2 GEO:</p> | <p>Analyze and evaluate complex issues or problems; draw reasoned conclusions and/or generate solutions; and effectively communicate their results.</p> |
| <p>Area B: Natural Science</p> <p>Example courses:</p> <p>GEOL 2 BIOL 10, 13 ASTR 10 CHEM 1A, 2 PHYS 2A, 3A</p> <p>} Proposed Area B SLO:</p> | <p>Use the scientific method to investigate phenomena in the natural world and use concepts, theories and technology to explain them.</p> |

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We're committed to KISS (Keep It Simple, Sweetheart).

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| <p>Area A2: Communication and Analytical Thinking</p> <p>Example courses:</p> <p>ENGL 2 BUSC 22, 42 MATH 263, 10, 12 SPOH 1, 2, 3 PHIL 6, 10</p> <p>} Proposed Area A2 GEO:</p> | <p>Analyze and evaluate complex issues or problems; draw reasoned conclusions and/or generate solutions; and effectively communicate their results.</p> |
| <p>Area B: Natural Science</p> <p>Example courses:</p> <p>GEOL 2 BIOL 10, 13 ASTR 10</p> <p>} Proposed Area B SLO:</p> | <p>Use the scientific method to investigate phenomena in the natural world and use concepts,</p> |

Reasons we're recommending this GEO model.

We're committed to KISS (Keep It Simple, Sweetheart).

We think writing a single SLO to be embedded in each course will be easier to assess in the long-run.

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|---|--|
| <p>Area A1: English Composition</p> <p>The course:</p> <p>English 1A</p> <p>} Proposed Area A1 GEO:</p> | <p>Proposed Area A1 SLO: form a provable thesis, develop it through factual research, distinguish between fact and opinion, and make effective rhetorical choices in relation to audience and purpose.</p> |
| <p>Area A2: Communication and Analytical Thinking</p> <p>Example courses:</p> <p>ENGL 2 BUSC 22, 42 MATH 263, 10, 12 SPCH 1, 2, 3 PHIL 5, 10</p> <p>} Proposed Area A2 GEO:</p> | <p>Analyze and evaluate complex issues or problems; draw reasoned conclusions and/or generate solutions; and effectively communicate their results.</p> |

Reasons we're recommending this GEO model.


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We think writing a single SLO to be embedded in each course will be easier to assess in the long-run.

No additional assessment committees are required.

Although they could be developed if that's what the faculty in that area want.

General Education Outcomes (GEOs) aligned with GE Areas

| GE Area | GE Outcome (GEO) |
|---|--|
| Area A1: English Composition | |
| The course: English 1A | |
|  | Proposed Area A1 GEO: form a provable thesis, develop it through factual research, distinguish between fact and opinion, and make effective rhetorical choices in relation to audience and purpose. |

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It provides a single, concise GEO description for each GE Area.

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No additional assessment committees are required.

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It provides a single, concise GEO description for each GE Area.

It is more clear than many of the other models.

For example:

http://www.grossmont.edu/student_learning_outcomes/pdfdocs/InstitutionalSLOs.pdf

A few possible problems with this model....

It hasn't been tested with ACCJC by any other college.

Currently the 3 GE patterns do not completely align

GEO wording for the various areas are at various stages of faculty vetting (proposed, possible)

What We'd Like

- Academic Senate endorsement
- “MPC should develop a GEO model as follows:
 - Create one GEO for each GE area
 - Embed each GEO into any course that satisfies the particular GE area
 - Assess each GEO as part of the normal SLO assessment process
 - Encourage dialog between teachers of GE courses
 - Details continued to be worked out”

Thank You.

The SLO Committee

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