General Education:
A revised LMC model

What GE faculty members
need to know
to write and revise their COORs
and contextualize
GE SLOs in their courses

— Fall 2021

EXECUTIVE SUMMARY

This packet has been created by the General Education Committee to help faculty understand how the new GE model, passed by the Academic Senate in May 2020, impacts the development and revision of course outlines of record.

It provides an overview of the intent of the integrated approach to general education at Los Medanos College, as well as information about its implementation in curriculum. It also includes LMC's GE Philosophy statement, the student learning outcomes that should be integrated into your courses, and SLO descriptors that include proposed assessment criteria. While this document contains a lot of important information that will be helpful, the checklist on page 3 will give you an at-a-glance look at the steps faculty should take when writing or revising outlines for courses in the GE program.

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Overview: Integrating and contextualizing GE SLOs

The general education model at LMC is designed to take an across-the-curriculum approach, and therefore each GE course should contextualize one or more of the GE SLO, in addition to the Universal COOR Core: Reading, Writing and Critical thinking. To ensure equitable distribution of all SLOs across the GE program, one GE SLO will be assigned to a collection of courses in each of six GE groupings based on the Title 5 course requirements list. However, in the event an assigned SLO is not a natural fit for a particular course within a GE grouping, the course author may substitute any other GE SLO to map to.

Faculty writing or revising GE courses are encouraged to map to as many additional GE SLOs as appropriate. However, it is crucial to maintain the curricular integrity of the discipline content, so additional selected GE SLOs should weave through the content in a compatible, not preemptive way. Faculty members writing course outlines of record should select only those GE SLOs to contextualize that are natural to the disciplinary content and/or appropriate to an effective pedagogical approach. Thus, the GE SLOs should not be supplementary to the course-level SLOs, but a natural part of them.

Depending on the content of each GE course, some may naturally map to just one GE SLO, while others may map to several of them. For example:

An algebra class may contextualize just one, GE SLO 5: Quantitative reasoning, but a statistics course may also be able to map to GE SLO 3: Ethical Insight as it examines the kinds of lies and bias in data that lead to the popularized phrase “lies, damned lies, and statistics.”

A journalism course might naturally map to GE SLO 1, 2, 3 and 4: Human communication because journalists conduct interviews, and speak to audiences when broadcasting; information literacy because journalists need to seek reliable and accurate sources of information in reporting; ethics because journalists must consider a wide variety of legal and ethical consequences in deciding when to publish a controversial piece of information; and diverse social and multicultural perspectives because such perspectives are central to fair and balanced reporting on a wide variety of social issues.

Initial implementation of the new model

❑ **If your course is already GE at LMC:** There is no need to do anything. The assignment of GE SLOs to the requirement groupings has been done with the intent to minimize the need for revision to current LMC GE course outlines. Any need for minor tweaking to reinforce the contextualization of the assigned SLOs may be done at the course's next regularly scheduled COOR revision. This model encourages courses that currently integrate more than the assigned GE SLOs to continue contextualizing others as appropriate.

❑ **College composition and most math courses are now considered GE at LMC**: This revision represents a change to the way GE has traditionally been structured at LMC. Historically, college-level math and college composition, represented in LR1 and LR2, were considered basic competencies at LMC, even though they transferred as GE. As such, they were not considered part of the LMC GE program and were not required to teach to or assess any GE SLOs. This revision brings those courses into the General Education program to eliminate confusion about what constitutes a GE course. The assignment of GE SLOs to these two requirement groupings has been done with the intent to minimize the need for revision to current course outlines. Any need for minor tweaking to reinforce the contextualization of the assigned SLOs may be done at the course's next regularly scheduled COOR revision.

❑ **Transfer GE courses not previously considered LMC GE:** All LMC courses that currently satisfy transfer requirements for CSU/UC/IGETC will be folded automatically into the LMC GE requirements package and will be placed into the appropriate LMC GE grouping. They will be required to map to the GE SLO assigned to that grouping, as well as to the Universal COOR Core: Reading, Writing and Critical Thinking SLOs, and to assess them. Most of the current transfer courses will be placed in a requirements box with an assigned GE SLO they likely already meet. Any need for minor tweaking to reinforce the contextualization of the assigned SLOs may be done at the course's next regularly scheduled COOR revision. If there is no matching LMC GE requirement, they will be listed as GE electives.

❑ **New transfer GE courses developed in the future:** All new LMC courses written to meet transfer requirements for CSU/UC/IGETC should map to the GE SLO assigned to its intended requirement grouping, as well as to the Universal COOR Core: Reading, Writing and Critical Thinking SLOs. Those courses in the pipeline that receive CSU/UC/IGETC approval before the implementation of the position paper in 2021 will be folded automatically into the LMC GE requirements package and will be placed into an appropriate LMC GE grouping. They will be required to map to the GE SLO assigned to that grouping, as well as to the Universal COOR Core: Reading, Writing and Critical Thinking SLOs, and to assess them. If there is no matching LMC GE requirement, they will be listed as GE electives.

Checklist: Writing or revising a GE COOR

❑ Identify which GE requirements area, or areas, your course fits into

❑ Contextualize the GE SLO assigned to the GE requirements area into your course by integrating it into at least one CSLO, and at least one sample course assignment for assessment purposes. If you are submitting your course for more than one GE requirement area, it should contextualize the GE SLOs assigned to both requirements areas, or any two other more appropriate GE SLOs. For a thorough explanation of the GE SLOs, please refer to the complete descriptors at the end of the packet. Please note: Although each GE course is only required to contextualize one of the six GE SLOs into the COOR, it is strongly recommended that course authors integrate as many as naturally fit into the course curriculum.

- **LR — Language and Rationality**

  1. English Composition
  GE SLO — Information Literacy, or any other more appropriate GE SLO

  2. Communication and Analytical Thinking

  a. Math Comprehension
  GE SLO 5 — Quantitative Reasoning, or any other more appropriate GE SLO

  b. Communication and Critical Thinking: Students who have met the math competency in ii.a may opt to meet the Communication and Analytical Thinking requirement by taking a course listed in this category.
  GE SLO — Information Literacy, or any other more appropriate GE SLO

- **NS — Natural Sciences**
  GE SLO 6 — Scientific Inquiry, or any other more appropriate GE SLO

- **AH — Arts and Humanities**
  GE SLO 1 — Human Communication, or any other more appropriate GE SLO

- **SB —Social and Behavioral Sciences**
  GE SLO 3 — Ethical Insights, or any other more appropriate GE SLO

- **EM — Ethnic/Multicultural Studies**
  GE SLO 4 — Diverse Perspectives

❑ Submit your course in eLumen

❑ The GE chair and/or assigned GE Committee members will complete GE Tech review and provide feedback as part of the Curriculum Committee review process.

GE philosophy, SLOs and descriptors

Each of LMC's six General Education student learning outcomes are drawn from the LMC General Education Philosophy Statement and have been designed to be integrated into the course outlines of record. The general education model at LMC is designed to take an across-the-curriculum approach, and therefore each GE course should contextualize one or more of the GE SLOs, in addition to the Universal COOR Core: Reading, Writing and Critical thinking.

Each GE SLO descriptor that follows the philosophy statement includes a written explanation with illustrations and examples of its application within courses, as well as specific Assessment Criteria. Please refer to them as you review and revise your course outline of record.

General Education Philosophy

Adopted April 8, 2020

"Central to an Associate Degree, General Education is designed to introduce students to the variety of means through which people comprehend the modern world. It reflects the conviction of colleges, then, that those who receive their degrees must possess in common certain basic principles, concepts and methodologies both unique to and shared by the various disciplines. College educated persons must be able to use this knowledge when evaluating and appreciating the physical environment, the culture and the society in which they live. Most importantly, General Education should lead to better self-understanding." **— California Code of Regulations, Title 5, 55061**

General Education is designed to enhance the lives of students in the broadest sense. A person who graduates from Los Medanos College should have well-developed reading, writing, speaking and critical thinking skills, and will mobilize these abilities in all areas of their lives, for the rest of their lives. They can ask thoughtful questions, grapple with difficult texts and concepts, reason quantitatively, consider competing perspectives, challenge arguments and question conventional ideas, evaluate sources of information, admit their own limitations, and demonstrate curiosity and a desire for continued learning.

The ends of general education, then, are interdisciplinary, and are more than academic; they are civic, ethical, and personal. Civic, because citizens in a democracy need to think, be informed, and work collaboratively with others in their communities. Ethical, because we are bound to uphold rights, promote equity, respect diversity, and oppose the mistreatment of humanity and the natural world. And personal, to enhance self-awareness and intellectual discipline.

The GE program at LMC is rigorous and challenging, but also responsive to students and relevant to real-world issues. It honors the diversity of its students' opinions and life experiences. The courses in the GE program are active, dynamic, probing, far-reaching, and open to unexpected lines of inquiry, and will engage and benefit any student, not only those with a professional or personal interest in the subjects.

GE SLO 1: Human Communication

At the completion of the LMC GE program a student will be able to communicate and collaborate effectively as a speaker, visual communicator, and/or performer.

Explanation

General Education courses demand effective human communication. Although writing is, and will remain an extremely important facet of communication in all college classes, GE classes require students to express they ideas in a number of ways beyond writing. To help students become proficient in non-written communications, a GE course should require a significant amount of speaking, communication artifact creation and/or a performance component, appropriate to the discipline.

Courses should provide regular opportunities for students to explore ideas and communicate them orally. Students should demonstrate the ability to speak effectively both in small groups and whole-class presentations.

Courses should provide opportunity for students to communicate in a variety of visual contexts, both literal and non-literal, which may include factual information, numerical information or artistic interpretations, and to present them to peers and faculty. Students should work collaboratively and/or independently as appropriate.

Courses should also provide opportunities for the performance aspect of communication, whether musical, dramatic or informational, and whether on formally stage or in the informally in the classroom, both collaboratively and individually.

Students should be asked to analyze, synthesize, interpret, discuss and evaluate communications derived from each of these venues, going beyond skills required for mere reporting of the events and objects observed. They should be able to express themselves using the language and terms of the field of study and apply historical precedent in their own efforts.

Students should also be asked to apply the other GE Student Learning Outcomes: Ethical Insight, Diverse Perspectives, Information Literacy, Quantitative Reasoning and Scientific Inquiry, to aspects Human Communication whenever possible and appropriate.

Proposed assessment criteria

A student who communicates effectively will demonstrate the ability to analyze, synthesize, interpret and evaluate concepts experienced in speech, performance, or observed in visual artifacts. In addition, a student will demonstrate one or more of the following:

a. Make oral presentations that clearly communicate ideas to a wider audience and engage in small group discussions, synthesizing facts and ideas into a meaningful framework that is integrated with experience.

b. Create high-quality visual artifacts of an artistic or informational nature.

c. Demonstrate proficiency in the performance aspect of the course.

Illustrations and examples

Speech examples:

Beyond the obvious inclusion of oral presentations, speech could be demonstrated through guided oral conversations, class group discussions or oral exams. Students should be encouraged to view speaking as a collaborative activity that helps not only themselves, but others in the engagement of learning.

Visual Communications examples

Visual communication can take a variety of forms dependent on the nature of the course. For example, a science class could integrate a physical or digital explanatory visual as part of a static lab presentation.

Visual aids, either physical or digital, could be used as part of any oral presentation. This model would also be appropriate for Math, Speech, Child Development and other many courses.

Humanities courses could include the re-creation of historical art objects or use a historical art creation processes.

Performance examples

A Theatrical Literature course, Music Literature course or Speech course could include an appropriate in-class performance. History and Mass Communications courses could have students assume the role of a relevant historical figure for an in-class performance. A Medieval and Renaissance Humanities class could ask groups students to take on the roles of nobility, royalty and the church, then debate an issue based on the historical positions these groups took.

GE SLO 2: Information Literacy

At the completion of the LMC GE program a student will be able to evaluate information and its sources critically.

Explanation

Courses that meet the Information Literacy GESLO should develop students' ability to access, identify, use, and evaluate sources of information for credibility and authority. Courses should introduce methods of search and/or search tools that are appropriate to the discipline as a component of information literacy, even though the GESLO addresses evaluation specifically.

Courses should contextualize information literacy to their own discipline by identifying accepted information practices or authorities within their industry. Students should have opportunities to search for and evaluate information from a variety of sources to help illustrate academic and non-academic resources.

Courses should include instruction that specifically addresses the criteria to be considered when evaluating information and its source, how the criteria is relevant to the discipline, and demonstrates the application of criteria during evaluation.

Proposed assessment criteria

A student who evaluates information and its sources critically will demonstrate the ability to:

a. Identify characteristics of appropriate and credible sources of information.

b. Define different types of authority relevant to a given field of study

c. Critically evaluate information from a variety of sources in order to choose the source most appropriate for the needed information.

Illustrations and examples

In an Academic & Career Success course, students could locate and identify current and scholarly literature about a topic in higher education and produce an annotated bibliography that explains the appropriateness and relevance of each source.

In a Biology course, students could locate and identify current and relevant peer-reviewed articles from scholarly biology journals that are then applied to their own research or laboratory experiments.

In a Chemistry course, students could locate and identify current and relevant peer-reviewed articles from scholarly chemistry journals to inform a group presentation that explains a current topic important to public health.

In a Nutrition course, students could locate and identify mass media concerning a popular topic in nutrition and evaluate their authority and credibility.

In a Political Science course, students could locate and identify appropriate literature to research a current social problem and its possible solutions.

In a Speech course, students could locate and identify appropriate literature to cite in their informative or persuasive speeches.

In an English 100 course, students could search for and critically evaluate a variety of sources from the LMC library including the electronic databases. Students will incorporate library sources in written tasks to support a thesis or central idea in the student's writing. Students will integrate using quotes and paraphrases, MLA conventions, and avoid plagiarism by synthesizing ideas researched by the student.

In a Statistics course, students could complete an assignment that requires them to gather data and appropriately critique the source of the data. Students could use their knowledge of sampling and statistical analysis to determine the validity of a source (such as a newspaper, journal article, or government census).

Further reading

According to the Association of College and Research Libraries (ACRL) information literacy is, "the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning."
Visit the complete ACRL Information Literacy Framework for additional information and ideas about incorporating information literacy into your course.
http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/infolit/Framework_ILHE.pdf

GE SLO 3: Ethical Insight

At the completion of the LMC GE program a student will be able to analyze and address ethical problems with a clear understanding of personal, social and civic responsibilities.

Explanation

The knowledge within a discipline embodies values and poses ethical questions that suggest possible consequences. By directly analyzing and addressing the obligations that can arise from that knowledge, students will learn there are always issues of "what should be (or should have been) done?" in any field of study. Considering these aspects will lend to the students' understanding of the significance and impact of knowledge on present and future societies.

Proposed assessment criteria

A student who analyzes and addresses ethical problems with a clear understanding of personal, social and civic responsibilities will demonstrate the ability to:

a. Recognize the ethical issues within a particular discipline

b. Identify the ethical implications of a specific issue within the discipline.

1. Explain the moral and ethical implications of various alternatives in response to an issue

2. Analyze conflicting moral values and ethical implications with respect to an issue and a particular course of action.

3. Explain the personal, social and/or civic responsibilities inherent in discipline knowledge and embedded within a decision.

Illustrations and examples

A literature course focusing on the work of Charles Dickens might explore the moral dilemmas raised when writing child labor laws or vagrancy laws.

A political science course might look at the values and ideals held by various sides involved in the controversy over constructing racially balanced voting districts.

An art course might discuss the obligations that arise when addressing issues of repatriation.

A math class might discuss the cost-benefit analysis of whether to allocate limited funds to help maintain local businesses or to other social and economic needs within the community.

GE SLO 4: Diverse Perspectives

At the completion of the LMC GE program a student will be able to evaluate diverse social, multicultural and/or global perspectives regarding current or past issues and events.

Explanation

General education courses should include the perspectives and contributions of social groups that have a bearing on the subject matter. Distinctions of race, class, ethnicity, gender, religion, age, disability, sexual orientation and political persuasion are common referents in modern societal debates and need specific treatment.

GE courses at LMC should strive to include more than a dominant or singular cultural perspective. GE courses should include diverse cultural perspectives or international issues.

Proposed assessment criteria

A student who evaluates diverse social, multicultural and/or global perspectives regarding current or past issues and events will be able to:

a. Identify and discuss contrasting experiences and viewpoints among social and cultural groups.

b. Describe and analyze the effects of social and cultural diversity.

c. Explain and illustrate global human connection and interdependency.

Illustrations and examples

A comparative religion course might research one religious practice or belief (e.g. prayer) across several religious traditions to show cultural contrasts.

A political science or history course might compare bills of enumerated rights in various constitutional systems to show the "human rights" consciousness of world peoples.

A literature course might analyze the artistic structure and social function of major epic poems from several cultural traditions to understand their lasting human influence.

A physical science course might look at the particular scientific problems deemed "high priority" for research and resolution (thus worthy of major financial, governmental and educational backing) on a nation-by-nation basis, or internationally.

A statistics class might look at the international trends of students' preferences in pursuing higher education or graduate studies.

GE SLO 5: Quantitative Reasoning

At the completion of the LMC GE program a student will be able to utilize quantitative reasoning and apply mathematical principles to real world situations.

Explanation

General Education courses should include quantitative reasoning concepts and examples involving applications of mathematical ideas in various fields of study to foster higher-ordered thinking skills and/or to support relevant concepts. Courses that employ quantitative reasoning may demonstrate any, but not limited to the following: (1) Applying mathematical concepts in various fields of study (e.g. proportionality in Astronomy, unit analysis in chemistry, statistical data on social sciences, etc.) (2) Using formulas to solve problems (3) Applying rules of logic/ reasoning relevant to the course. (4) Using arithmetic and/or statistical operations to explain/ solve problems.

Proposed Criteria

A student who engages quantitative reasoning will demonstrate the ability to:

a. Communicate mathematical, statistical, and/or numerical information accurately and effectively based on a real-world scenario or problem. This can be demonstrated through statements, formulas, equations, graphs and/or other various representations;

b. Interpret results in the context of the real-world problem or mathematical idea by articulating the information clearly, accurately, and effectively using appropriate terminology; and

c. Solve problems using necessary mathematical operations or procedures relevant to a General Education class.

Illustrations and examples

Students could apply quantitative reasoning in the classroom through a variety of different ways. The following are some examples of such:

In Nursing, unit analysis and/or proportion is used to calculate drug dosages. Students might use the arithmetic process of conversion to calculate how many drops per minute of a specific drug must be administered. The concept could also be extended by highlighting the importance of this mathematical process to prevent over-dosage and under-dosage in drug calculations.

In an astronomy course, students could use Newton's law of gravity to predict how the force will vary with distance (such as a planet's distance from the sun). Students could predict how this law's inverse-square dependence of force on distance will influence the speed of planetary motion (comparing planets near the sun to those farther away). Students could also predict and explain how planets orbiting other stars affect the motion of the star itself and how this allows us to detect these planets.

In Business, the terminology exponential growth/decay is applied to interest calculations given a principal amount. Quantitative reasoning could be used to define and describe exponential patterns as opposed to linear patterns (or any other type of patterns). Students will solve the amount of growth after a specific time elapsed. Conversational pieces and real-life examples such as the effect of exponential growth to bank deposits as well as credit card payments may be good examples to connect this idea to students.

In philosophy, logical statements/premise set could be analyzed using quantitative reasoning. The propositions leading to a conclusion follow the same set of mathematical rules of logic. Students could analyze these statements using truth tables or other applicable rules of logic. Quantitative reasoning could also be used to verify validity or similarities of statements.

GE SLO 6: Scientific Inquiry

At the completion of the LMC GE program a student will be able to apply methods of scientific inquiry in real world situations.

Explanation

Students should understand the nature of scientific knowledge and the methods that drive its progress. Familiarity with the scientific method is needed not only by scientists, but increasingly by everyone. Non-specialists are faced with evaluating critical questions ranging from climate policy to vaccine safety, from how clean our air and water should be to how many species to protect. Students should be able to understand how scientists approach such questions, how hypotheses are evaluated and how conclusions may be drawn.

Some important elements:

1. Scientific inquiry has a goal: understanding the universe, the world, or some part of it. Behind the goal is the conviction that pursuit of inquiry can increase our understanding.
2. Scientific inquiry is based on empirical evidence: experiment, observation, and data. All of this must be subject to validation by others.
3. This process is methodical, proceeding from a tentative hypothesis to a qualified conclusion through a rigorous sequence of tests.
4. The method is open: results are published (shared), reviewed by peers, and subject to modification or challenge.
5. Broad conclusions and paradigms only emerge by consensus (there is no Supreme Court of science).
6. The result of scientific inquiry is always subject to future revision

A course including a scientific inquiry component should identify how these elements are incorporated into the subject discipline, identifying: the goal(s) of inquiry, the types of data obtained, examples of typical experiments or observations, and a critical reflection on the level of confidence the current consensus has reached. This may include examining dissenting models or theories and how these have been evaluated. It may also include discussion of the limits of current understanding and the major topics of ongoing research in the field. Key questions to keep in focus include:

- How do we know what we know?
- How certain are we of the theories, paradigms and models?
- What competing explanations and ideas exist?

The experience students gain will enable them to apply a similar structured approach to other subjects and questions.

Proposed assessment criteria

A student who understands the principles and steps of scientific inquiry will be able to:

a. Describe the central question(s) that are the focus of inquiry
b. Cite examples of important experiments or other evidence supporting a foundational paradigm or important model within the subject discipline.
c. Form a hypothesis concerning one of these questions and conceptually design an experiment capable (in principle) of affirming or invalidating the hypothesis. Discuss what outcomes would affirm the hypothesis and what outcomes would invalidate it.
d. Give at least one example of how former theories, models or paradigms within the subject discipline have been significantly revised or overturned by the accumulation of evidence.
e. Describe an example of an important area of ongoing research or a significant unanswered question within the subject discipline.
f. Cite an example of a theory or model potentially in conflict with the accepted consensus view. Explain why it is not the consensus view.

Illustrations and examples for integration of the goal into courses

In a physical science course, the physical/chemical basis of the greenhouse effect and its ramifications on Earth's temperatures could be examined in light of evidence for a human activity-driven cause for climate change as opposed to a "natural cycles" explanation. Students could investigate existing evidence sources and share their conclusions with their peers (practicing the development of consensus within science).

In a biology, health or medical course, the response (worldwide) to the COVID-19 pandemic could be examined in terms of how different treatments for the disease have been evaluated, how vaccines were (or are being) developed and tested, and how the efficacy of preventive measures such as social distancing and masks has been (or could be) evaluated. The extra challenges posed by emerging mutated strains of the virus could also be considered.

In a statistics course, the application of statistical inference in these studies could be highlighted. In a behavioral science class, the focus could be on the emergence of controversies and resistance to scientific explanations.