



California Education Learning Lab



Dear Higher Education Leaders:

The California Education Learning Lab ("Learning Lab") is pleased to present you with this grant opportunity, "Enabling Institutional Change in Undergraduate STEM Education."

The Learning Lab is a state-funded grant program dedicated to improving learning outcomes and closing equity gaps across California's public colleges and universities. This call for proposals invites public higher education institutions to collaborate with each other to effect institutional-level change for undergraduate STEM education. We seek innovative proposals that will lay the foundation for institutions to advance undergraduate STEM success, improve online and hybrid course environments, and close equity gaps for students.

For this call, Learning Lab hopes to fund 4-6 grants of \$350k-\$750k each. This call for proposals will be conducted on a quick turnaround basis, with proposals due to the Learning Lab by Friday, April 3, 2020, at 5pm. Awards are intended to be announced by May 1, 2020, with grant agreements in place by June 1, 2020, for a July 1, 2020, start date.

As concerns about COVID-19 are impacting all leaders at public institutions and beyond, we hope you will consider this opportunity to collaborate with other higher education leaders to deliver innovative, effective education in these challenging times and further your goals for STEM success.

More information about this grant opportunity is contained in the attachment.

If you wish to receive future announcements of Learning Lab grant opportunities directly, please [join our listserv](#) or visit <http://opr.ca.gov/learninglab/>.

Please don't hesitate to contact the Learning Lab at learninglab@opr.ca.gov, or reach out to Tristan Stein at Tristan.Stein@opr.ca.gov with any questions.

We appreciate your ongoing commitment to California public higher education.

Sincerely,

Lark M. Park
Director, California Education Learning Lab
Governor's Office of Planning and Research
<http://opr.ca.gov/learninglab/>



California Education Learning Lab



Enabling Institutional Change in Undergraduate STEM Education

Revised on March 23, 2020, with updates to Eligibility on pp. 2-3 and Institutional Cover Letter Requirements on pp. 3-4. Changes are highlighted.

Introduction

[Assembly Bill 1809 \(Chapter 33, Statutes of 2018\)](#) established the California Education Learning Lab (“Learning Lab”) as a competitive grantmaking program for intersegmental faculty teams to incorporate the science of learning and adaptive learning technology into their curriculum and pedagogy, with the express purpose of improving learning outcomes and closing equity and achievement gaps in STEM and other disciplines. Learning Lab seeks to encourage the development and dissemination of pedagogical practices, learning resources, technological tools, courses, and courses series that demonstrate success in improving learning outcomes and closing equity gaps.

In support of its mission to improve student learning outcomes and close equity gaps, Learning Lab is soliciting proposals for *Enabling Institutional Change in Undergraduate STEM Education*. Learning Lab seeks proposals that address institutional barriers to student success and retention in STEM and that aim to establish institutional contexts and environments that will enable greater student success and faculty engagement.

Learning Lab intends to award four to six grants of approximately \$350,000 - \$750,000 each for 1-2 years to support institutional-level changes in undergraduate STEM education.

Projects should:

- Demonstrate an innovative approach to institutional-level change that will improve learning outcomes and/or reduce equity gaps. The proposed approach should, as appropriate, address institutional barriers to student success and/or aim to foster institutional contexts that are conducive to student success.
- Demonstrate potential for sustainable, institution-wide impact across the partner campuses. At the university level, proposed projects should have potential for impact at least at the school/college/multi-departmental level. Projects should also demonstrate potential for subsequent broader dissemination to and replication at other campuses and segments of higher education.

- Demonstrate potential to directly or indirectly improve learning outcomes and/or close equity gaps in online and hybrid course environments for lower division undergraduate students.
- In addition, projects should integrate the science of human learning and adaptive learning technology tools where appropriate, and make robust use of data and technology in order to achieve objectives.

In order to encourage broad participation and impact in funding opportunities, **Learning Lab defines online/hybrid course environments and adaptive learning technology broadly— please see Section E. Definitions.**

Projects must be **co-hosted by a minimum of two public higher education segments** in California. In granting awards, Learning Lab will take into consideration where projects are located in California, in order to balance geographic equity of awards and diversity of awarded institutions.

A. Application Process

Projects will be selected through a single stage process. All application materials must be submitted as a single PDF to LearningLab@opr.ca.gov above by 5pm, Friday, April 3, 2020.

B. Eligibility

1. Applicant teams must include faculty and/or administrative co-principal investigators (PIs/co-PIs) from at least two public higher education segments. Representation from all three public higher education segments is encouraged. Additional partnerships, such as with private independent/nonprofit institutions and/or industry partners, are also encouraged.
2. Institutional change projects should have potential to directly or indirectly improve learning outcomes and close equity/achievement gaps for undergraduate STEM students according to the criteria above.
3. Projects should at a minimum address one or more of the following STEM fields: life and biological sciences, computer science, engineering, information/data sciences, math and statistics, or physical sciences (including earth and environmental sciences). Other disciplines may be additionally included in the project.
4. Projects require the endorsement of the institution’s president, chancellor, vice chancellor/vice president of instruction, or provost or equivalent. See Section (C)(1)(e) – Authorized Signatures. **(Update: In light of the present situation, projects will not be required to demonstrate this endorsement at the time of submission. If a project is**

recommended for award, endorsement by the institution's president, chancellor, vice chancellor/vice president of instruction, or provost or equivalent *will* be required at the time of the final grant agreement.)

C. Submission Requirements

Please provide a proposal including Institutional Cover Letter(s), Project Summary, Project Narrative, Endnotes/References, and Appendices, as described below; Arial 11 font; single spaced; 0.5 inch margins. Please include the official name or short name of the project in a footer, together with the last name of the PI or of a Co-PI responsible for project team correspondence.

Please submit all proposal components as a SINGLE PDF to Learning Lab's email address: LearningLab@opr.ca.gov by 5pm, Friday, April 3, 2020.

A proposal will include five components:

1. Institutional Cover Letter(s) (maximum 2 pages per letter, not including signatures)—
Please note the updated institutional cover letter and authorized signature requirements below
2. Project Summary (maximum 1 page)
3. Project Narrative (5-7 pages, not including footnotes/endnotes)
4. Endnotes/References (no page limit)
5. Appendices
 - a. Additional information on team members (maximum 3 pages)
 - b. Budget overview (maximum 2 pages)

1. Institutional Cover Letter. For each application, the host institution should provide responses for Section a-e below in a brief cover letter (limit 2 pages, not including signatures). If a project is recommended for award, partner institutions will be required to provide cover letters demonstrating institutional support at the time of the final agreement. ~~For each application, the relevant schools/institutions should provide responses for Sections a-e below in a brief cover letter (limit 2 pages, not including signatures).~~

~~Please note: teams may submit either one cover letter with all required signatures from partner institutions, or individual cover letters from each partner institution.~~

- a. Partner institutions: Identify the institution that is submitting the proposal and will be responsible for receipt/administration of the grant funds, if awarded. Identify also the anticipated partner institutions that will participate in the project.
- b. Institutional focus: Describe each institution's expected commitment (e.g., faculty release time, funding, administrative support) to the proposed project of institutional change.

- c. Program integration/lasting impact: Describe how the proposed project's innovations will be sustained after the end of the grant project. Explain also how the proposed project will fit into or leverage any existing initiatives of institutional change.
- d. Principal investigators: Identify the investigators who will serve as (co-)PIs. Please briefly describe each PI's capacity, relative to the strengths needed to execute this project.
- e. Authorized signatures: ~~For each participating institution,~~ The letter should be signed both the PI/Co-PI responsible for administering the project **and by the PI/Co-PI's dean.** The signature of the institution's president, chancellor, vice chancellor/vice president of instruction, or provost or equivalent will be required at the time of the final grant agreement, if awarded.

2. Project Summary (maximum 1 page): Describe as succinctly and clearly as possible the proposed project of institutional change and explain how Learning Lab funding will contribute to the development and implementation of this project. Discuss briefly how this project will change the status quo for all involved and explain how this change will promote student success in STEM. Please provide an estimate for how many students and/or faculty will be impacted and over what period of time.

3. Project Narrative (5-7 pages): The project narrative should include the following components (note: the order/how they are addressed is flexible):

- a. A description of the proposed project and the institutional changes that the project team aims to achieve. **WHAT does the project do?**
- b. A clear example of how the proposed project will work in practice. **WHO will experience WHAT differently** (*student experience now vs. during/after the project implementation*), *and how will the project help to improve student learning outcomes or close equity gaps in STEM?*
- c. Relevant institutional data disaggregated by course and student characteristics (e.g., ethnicity, gender, socio-economic status, first-generation college going), as applicable, to illustrate the existing campus-specific equity or student success issues that the project attempts to address. **WHY is this project necessary or beneficial?**
- d. An explanation of **HOW** the project aims to implement institutional change summarizing the project plan and the team's strategy for effecting institutional change. Please include details on the proposed timeline and the loci of implementation. Please also include references to any successful models of institutional change that would indicate your project has potential for success.
- e. A description of how the project will use data and technology tools, including adaptive learning technology where appropriate (see Section E. Definitions). If the project includes the development of new technology tools, the project description should

explain why this is necessary and how the technology will be developed within the grant's timeframe and with the funding provided.

- f. A description of the assessment plan for evaluating the effectiveness of the project. If possible, please additionally provide information according to the following table:

| Project Goals | Anticipated Outcomes | Assessed By (include metric) |
|---------------|----------------------|------------------------------|
|---------------|----------------------|------------------------------|

- g. A description of how the proposed project will be disseminated and/or have lasting impact, including how the project can be scaled and/or replicated at other institutions.
- h. A description of the project team and their specific roles in the project.
- i. A description of how Learning Lab funds will be used to carry out the project plan.

4. Endnotes/References (no page limit): Please provide endnotes/references supporting the project's approach. Endnotes should be used for source references only; do not include substantive material in endnotes.

5. Appendices

- a. **Additional information on team members (maximum 2 pages total):** Please provide additional information on team members (i.e., statement of qualifications), not covered in the full proposal.
- b. **Budget overview (maximum 2 pages):** Briefly outline how Learning Lab funds will be used and how other resources may be leveraged including any outside funds or institutional funds. Please use the Appendix B: Budget Table and Justification provided below. Note: Learning Lab funds are intended to be used in California. If the project necessitates the use of Learning Lab funds outside of California, provide a brief justification and estimate of the funding that will leave the state. The amount of funds that can leave the state will be subject to the final award agreement.

D. Post-Award Agreements

Applicants whose proposals are selected will be asked to enter into an agreement with the Governor's Office of Planning and Research, or its designee. Learning Lab will administer the agreement, which will address project implementation, including the following:

- a. **Indirect Costs:** Up to 8 percent in indirect costs are allowed; combined direct and indirect costs cannot exceed the award amount. Learning Lab calculates the 8 percent IDC rate based on total combined direct costs for all partner institutions and does not permit layering of IDC in excess of 8 percent of total direct costs.

- b. **Open Educational Resources:** Agree to terms and conditions that require course and course series and technology/platforms enabled with Learning Lab funds to be available as open educational resources, as defined through the grant agreement.
- c. **Start Date:** Initiate work within 30 days of signing the agreement. Grant agreements must be signed no later than June 1, 2020.
- d. **Reporting:** Submit progress reports at agreed-upon intervals, including tracking of milestones and expenditures, participate in conference calls and convening activities, and seek technical assistance from the Learning Lab Advisors or Learning Lab staff. All post-award expectations will be specified in award agreements.
- e. **Use of Data:** Investigators and demonstration teams are expected to share data and research findings consistent with academic standards.
- f. **Protection of Privacy and Personal Information:** Investigators and demonstration project teams are expected to follow state and federal law to protect privacy and personal information.

E. Definitions

Adaptive Learning Technology. Adaptive learning is defined by statute to mean “a technology-mediated environment in which the learner’s experience is adapted to learner behavior and responses.” In order to have the potential for large-scale impact, Learning Lab understands adaptive learning technologies in the broad sense of deploying technology to better understand learner experience/learner gaps and assets, and to modify learning environments, pedagogical approaches and/or available resources to produce better learning outcomes across the broad range of students.

Online/Hybrid Learning Environments. Learning Lab also takes a broad view of what qualifies as an online or hybrid course. Online courses allow students to interact, either synchronously or asynchronously, with the course material/lecture/lab work, and other participants and/or instructors/TAs in a technology-mediated, remote environment. Hybrid courses or blended courses are those that use both “online” and in-person interactions as part of the formal course environment or requirements. Hybrid courses allow some component of the course to be available or accessible in an online environment. For the purposes of this RFP, a course does not have to be officially designated by the institution or department as “hybrid” to be eligible for Learning Lab grant funding, so long as it conforms to the definition above.

Intersegmental faculty team. Intersegmental faculty team refers to a team of faculty from more than one segment of public higher education, e.g., University of California, California State University, California Community Colleges.

Appendix B: Budget Table and Justification*
Budget for Project Period: July 1, 2020 – June 30, 2022**

Name of Project: _____

COMPOSITE BUDGET FOR ENTIRE PROPOSED PROJECT PERIOD
07/01/2020 to 06/30/2022

| BUDGET CATEGORY | Year 1 07/01/2020 to 06/30/2021 | Year 2 07/01/2021 to 06/30/2022 | TOTAL |
|--|------------------------------------|------------------------------------|-------|
| PERSONNEL: <i>Salary and fringe benefits.</i> | \$0 | \$0 | \$0 |
| TRAVEL | \$0 | \$0 | \$0 |
| MATERIALS & SUPPLIES | \$0 | \$0 | \$0 |
| EQUIPMENT | \$0 | \$0 | \$0 |
| CONSULTANT | \$0 | \$0 | \$0 |
| SUBRECIPIENT | \$0 | \$0 | \$0 |
| OTHER DIRECT COSTS (ODC) | \$0 | \$0 | \$0 |
| ODC #1 | \$0 | \$0 | \$0 |
| ODC #2 | \$0 | \$0 | \$0 |
| ODC #3 | \$0 | \$0 | \$0 |
| TOTAL DIRECT COSTS | \$0 | \$0 | \$0 |
| Indirect (F&A) Costs <i>Rate ≤ 8%***</i> | \$0 | \$0 | \$0 |
| TOTAL COSTS PER YEAR | \$0 | \$0 | |
| TOTAL COSTS FOR PROPOSED PROJECT PERIOD**** | | | \$0 |

* This is a sample template for Appendix B. Please limit this appendix to two pages. Additional pages may be (but are not required to be) submitted for subawardee/subrecipient information, pursuant to Item 6 below.

** Grants are intended to fund projects for 1-2 years.

*** The Indirect Cost Rate should be equal to or less than 8 percent of combined project direct costs. Please indicate what rate you will be using and multiply Total Direct Costs by that rate to calculate Total Indirect Costs.

**** Total Costs for Proposed Project (indirect plus direct costs) cannot exceed \$750,000 over the 2 years.

***** Please provide a description of how you would downscale the project if awarded funds are less than the proposed project total.

Additional Note: 1) Project Period Budget Flexibility: Prior approval will be required for budget changes between approved budget categories above the negotiated thresholds.

Budget Justification

This section is intended to expand on information provided in the table on B-1, as well as the Project Narrative discussion of how grant funds will contribute to institutional change in STEM undergraduate education at the participating institutions. Please respond to the following items, using tables with explanatory notes, where possible. If explanations have already been provided in the Project Narrative, please indicate “already provided.”

1. Personnel. Starting with the principal investigators and co-principal investigators, please provide the names of all known personnel who will be involved on the project for each year of the proposed project period. Please include positions that are known but personnel have not yet been identified as “to be determined” (TBD). Please provide their role on the project, including “to-be-determined” positions. Please include separately the costs of fringe benefits, according to your institution’s policy. Note: “Percent Effort” is relative to the individual’s total work time. Example: 50% FTE would indicate that half of the individual’s work time will be devoted to this project.

Sample Table:

| Personnel Name | Role on Project | Percent Effort | Year 1 Salary | Year 1 Benefits | Year 2 Salary | Year 2 Benefits |
|----------------|-----------------|----------------|---------------|-----------------|---------------|-----------------|
| | | | | | | |

2. Travel. Please provide a summary of anticipated travel expenses by year that are estimated in the table on page B-1. Travel must comply with your institution’s travel guidelines.
3. Materials and Supplies. Please itemize estimated materials and supplies in separate categories. For software purchases, please list in this category.
4. Equipment. Please list each item of equipment anticipated to be necessary and estimated cost. For technology hardware, please list in this category.
5. Consultant Costs. Consultants are individuals/organizations who provide expert advisory or other services for brief or limited periods and do not provide a percentage of effort to the project or program. Consultants are not involved in the scientific or technical direction of the project as a whole. Please provide the names and organizational affiliations of all consultants. Describe the services to be performed, and include the number of days of anticipated consultation, the expected rate of compensation, travel, and/or other related costs.
6. Subawardee/Subrecipient (Consortium) Costs. Please list each subawardee/subrecipient anticipated for your project and estimated amount. For projects that are awarded, a detailed budget (table in B-1, plus justification) will be required for each subawardee/subrecipient as part of the award agreement. Detailed subawardee/subrecipient information may be included now beyond the 2-page limit, but it is not required as part of this submission. If a project has not decided whom to list as subawardees/subrecipients vs. personnel, this may be negotiated as part of the award agreement.
7. Other Direct Costs. Itemize any other expenses by category and cost. Example: If the Scope of Work will be performed in an off-campus facility rented from a third party for a specific project or projects, then rent may be charged as a direct expense to the award if justified.