Grand Challenge: Overcoming the Calculus Barrier to STEM Success

Frequently Asked Questions (updated February 2, 2021)

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* Asterisks and highlights below indicate new questions asked by applicants in Jan/Feb 2021.

Eligibility Questions

What disciplines are eligible to apply for the Grand Challenge?

Mathematics and any STEM discipline where calculus is a prerequisite are eligible for this challenge. Projects should focus on students' first year experience, broadly defined as the time leading up to college all the way through the end of the first academic year, and address either the calculus sequence directly or reimagine the role of calculus in STEM majors where calculus is a prerequisite (i.e., address how calculus or alternative quantitative modalities might be used in other STEM introductory courses).

Can projects address multiple disciplines?

Yes.

Who is eligible to serve as a PI or co-PI?

These are institutional awards. Any individual with a permanent faculty appointment and who can demonstrate institutional support for the project through commitments from their department chair AND the appropriate academic administrator (such as a dean, vice chancellor/vice president of research or provost or equivalent), may apply as a PI/co-PI. Learning Lab does not limit the definition of "permanent faculty appointment" to tenured or tenure-track faculty. The Learning Lab does require that principal investigators hold an appointment that provides assurance that they will be able to oversee the proposed project for the duration of the grant. Non tenure-track faculty who hold also administrative or departmental positions or long-term contracts that provide an equivalence to permanent appointment for the duration of the grant may be eligible, provided that they can also demonstrate institutional support from their department chair and appropriate academic administrator.

Is there a limit on the number of proposals that may come from one institution?

There is no limit on the number of applications that may come from a particular institution, provided that PIs/co-PIs meet all other requirements. In reviewing proposals, the Selection Committee will consider, however, the geographic equity of awards and will seek a diversity of awarded institutions.

If I am already on a Learning Lab funded project, may I apply or be part of a project team that applies for this challenge?

In addition to meeting all the RFP requirements, existing grantees must demonstrate that they have time to participate in or lead a new project without compromising the existing grant project.

Would two departments of the same campus be considered "intersegmental"? *

No. For Learning Lab, intersegmental refers to at least two of the three segments of public institutions of higher education, that is, UC, CSU, and CCC segments. (Added 1/4/21)

The Request for Proposals reads "Additionally, a PI or co-PI must participate in at least one meeting sponsored by Learning Lab on racial and gender equity." Does this refer to the Equity Conversation Series? Are there any upcoming meetings in the series? *

Yes, this refers to the Equity Conversation Series. The final meeting in this series is on Friday, February 12, from noon to 1pm. Refer to Learning Lab's website for the registration link. (Added 2/2/21)

Grant Application Questions

Are applicants required to submit a statement of intent?
Yes. All applicants must file a Statement of Intent by 5:00 pm on Friday, January 15, 2021 (Pacific Time).

May applicants submit a statement of intent without confirmation of additional co-PIs?
Yes, as long as these key contacts are identified prior to submitting the self-assessment/concept proposal.

What does Learning Lab mean by a project's "host institution?"
The project's host institution is the college or university that will act as grantee and fiscal intermediary for purposes of grant administration. The host institution will enter into a grant agreement with the Foundation for California Community Colleges (the Governor's Office of Planning and Research's designated administrator for Learning Lab) for receipt and management of grant funds, including distribution of funds to the partner institutions based on sub-award agreements. The designation of an institution as "host" is for grant administration purposes only. Learning Lab expects awarded projects to have meaningful, well-balanced collaboration among partner institutions.

What if my information changes after submitting the statement of intent?
Learning Lab acknowledges that information may change after submitting the Statement of Intent. As such, there will be an opportunity to update your team information during each stage of the application process.

How will the self-assessment be evaluated?
The self-assessment will help selection committee members understand the local context for the concept and full proposals. They will not be separately evaluated.

When are the Institutional Cover Letter(s) required?
Institutional cover letter(s) are only required at the full proposal stage. Host institutions must provide an institutional cover letter. Detailed instructions are provided in the RFP under the Full Proposal section. Institutional cover letters are only required for the Grand Challenge. The Cohort Facilitator application will have a separate set of questions and instructions that will be made available through the facilitator application.

What if a faculty team is unable to obtain letters or signatures from all the partner institutions?

Applicant teams must have all required signatures for all partner institutions at the full proposal stage.

What will the Cohort Facilitator do?

The Cohort Facilitator's role is to coordinate and facilitate the sharing ideas, approaches, findings, data, and outcomes among awarded projects teams over the three-year grant period. The Cohort Facilitator's role is also to coordinate and facilitate the production of recommendations for model first-year STEM curricula with effective pedagogical approaches and faculty professional development components built in. These deliverables are due by the end of the third-year.

Does the project need to include Calculus 1 and 2? *

No. The project does not need to include both. Projects that address the mathematics sequence must include Calculus 1. The project may include courses leading up to or following Calculus 1. (Added 1/4/21)

Does the RFP allow for projects to include preparation for calculus as part of a pathway? *

Yes. Projects that include courses leading up to Calculus 1 can be included, as long as some component of Calculus 1 is included in the project. The project can include courses in either direction along the pathway. (Added 1/4/21)

Would a project that utilizes courses like discrete math across multiple departments be eligible for funding? *

Yes. Projects that aim to create an alternative to calculus for STEM disciplines where calculus is a prerequisite are eligible. The project should consider the nexus between those STEM disciplines and how it utilizes Calculus 1. (Added 1/4/21)

What is expected regarding the size and scope of the project evaluation? *

Learning Lab expects that there will be a project evaluation with data collected throughout the project. The evaluation can be internal; there is no expectation of an external evaluation, but you may include one in your project plan and budget. (Added 1/4/21)

What is expected in terms of the scale of the project's impact? *

The RFP seeks projects that demonstrate impact and show potential for scalability. However, the RFP does not prescribe specific impact indicators. Most importantly, strong projects will highlight the characteristics and components highlighted in the grant opportunity. (Added 1/4/21)

In thinking about how many students we want to impact with our proposal, what would be considered enough? *

That would depend on the individual proposal, in terms of the level of intervention and significance of the impacts. As noted directly above, the RFP does not prescribe specific impact indicators, but please consider the amount of funding offered for the Grand Challenge in relation to the population of students you aim to impact, and whether your project could be easily scaled or implemented by others at lower cost. (Added 2/2/21)

Are projects required to be either regional or statewide? *

No. There is no requirement that projects be regional or statewide. The project must be intersegmental and include at least two public institutions of higher learning. Including a rationale for the partnership (i.e., why these particular institutions have come together) or demonstrating that the project is well-balanced among the host and partner institutions will be helpful. (Added 1/4/21)

Can projects include existing adaptive technologies or are projects required to create new technologies? *

Projects can use existing technology; there is no requirement to create new technology. If creating a new technology is part of the project, a strong rationale for this is recommended. For example, there are no technology tools on the market that meet the needs of the project goals. (Added 1/4/21)

How should projects account for the impact of the pandemic on project activities? *

Given the uncertainty about the impact of the pandemic, projects may want to consider this in their planning and, for example, front load activities in a particular way. In general, Learning Lab grants provide flexibility in expenditure rates throughout the grant period and an iterative process is expected. (Added 1/4/21)

What is the PI and co-PI structure for multiple institutions? Does each institution have a PI and co-PIs, or is there one PI for the whole grant? *

A project can have one PI and multiple co-PIs, or any combination. The most common configuration is a single PI from the host institution and multiple co-PIs, with one co-PI per partner campus. We do have some projects with two PIs and additional co-PIs. Ultimately, the configuration is up to the project team, along with defining responsibility, decision making, and credit. (Added 1/12/21)

We are partnering with a CSU where instructors of Calculus courses are part-time faculty or adjuncts. Can they serve as co-PIs of the project? *

This depends upon whether they can procure institutional support (i.e., required letters from their institutions) and have commitments to be at the campus for the duration of the grant. If that's not the case, they would be listed as Key Personnel rather than co-PIs. (Added 1/12/21)

Our team consists of 1 host institution and 2 collaborating institutions. Is one application enough or does each institution need to submit an application? *

One application is necessary to be submitted per project, not per institution. (Added 1/13/21)

There is a question above (page 4) regarding information that may change after submitting the statement of intent. Please clarify what this means. *

Applicants may change project information at the Concept Stage and at the Full Proposal Stage – meaning up until the time the applicant hits "submit" at each stage. (Added 2/2/21)

For the Self-Assessment and Concept Proposal, would you like references and, if so, do they count toward the page limit? *

We do not require references in the self-assessment and concept proposal. If you wish to include references, they must be kept within the page limits. For applicants invited to submit a full proposal, there will be a specific no page limit section for Endnotes/References. References will be expected at the full proposal stage. (Added 2/2/21)

Can Learning Lab make a previously submitted grant proposal available for review? *

We may consider this for future grant opportunities, but at this point in the RFP process, we believe it would be counterproductive to provide a previously submitted grant proposal, as each request for proposals is distinct in the information requested. We would advise taking advantage of the open structure of the concept proposal request to build a concrete narrative around your proposal, in addition to being responsive to the prompts in the concept proposal/self-assessment section of the RFP. Please also review the "Set Yourself Up for Success" section of the RFP, and the concept proposal rubric, which is posted online at rfp.calearninglab.org, as you craft your proposal. (Added 2/2/21)

Budget and Grant Agreement Questions

What can award funds be spent on?

Award funds may be spent on expert consultants, faculty release time and stipends, other staff time (such as for graduate students), training, technology resources and travel that are necessary for the execution of the project, including evaluation. The concept proposal requires a description of the project's budget request and what Learning Lab funds will be spent on. The full proposal requires applicants to populate a budget template, in which applicants are asked to provide detailed budget

information and justification. The budget template will be made available on Learning Lab's website.

Additional notes:

- Learning Lab will only fund reasonable travel that is directly related to furthering the purposes of or disseminating the practices and results of the project. All travel must be approved by Learning Lab with justification and reasonable rates.

- Any sponsored convenings by the host or partner institutions must be approved by Learning Lab and accord with state rules and rates for food-related and other costs.

- Expenditures on materials, supplies, and equipment will be capped at 10 percent of the grant award and must be necessary to achieve the project goals. If your proposed budget requires a larger percentage of expenditure in these categories, please explain how your project would be widely scalable and replicable at other institutions without the same costs.

- Learning Lab funds are intended to be used in California. If the project necessitates the use of Learning Lab funds outside of California, a brief justification and estimate of the funding will need to be provided in the full proposal. The amount of funds that can be spent outside the state will be subject to the final award agreement.

Why are the Indirect Costs capped at 8 percent and how is this calculated?

Learning Lab allows for up to 8 percent in indirect costs (IDC) on grant awards. Learning Lab's IDC rate is lower than that contained in the California Model Agreement used by CSU and UC. Learning Lab views the lower rate as appropriate for its grants, because these awards support pedagogical research and demonstration projects involving courses that are normally and regularly offered as part of established departmental curricula. In addition, projects supported by Learning Lab awards generally do not involve substantial facilities or equipment use beyond that associated with normal instruction. As a result, Learning Lab expects funded projects to pose a lower burden on facilities and administration than the research projects anticipated by the Model Agreement.

Learning Lab calculates the 8 percent IDC rate based on combined project direct costs and does not permit layering of IDC in excess of 8 percent of total direct costs. Combined direct and indirect costs cannot exceed the award amount. Consequently, for a project awarded a $1 million grant, total combined IDC for all partner institutions cannot exceed $74,074 (i.e., 8 percent of total direct costs of $925,926, with combined indirect and direct costs totaling $1 million). Partner institutions may, however, divide their respective shares of IDC, as long as they conform to the Learning Lab's overall limit on IDC (i.e., no more than 8 percent of total direct costs). For instance, the host institution may apply 8 percent IDC to a portion of a sub-award, but the sub-awardee cannot then apply IDC to that same portion of the sub-award, since that would lead to total IDC in excess of 8 percent of total project direct costs.

What OER and intellectual property arrangements will appear in the grant agreements?

Statute requires the Governor's Office of Planning and Research (or its designated agent, the Foundation for California Community Colleges) to establish terms and conditions that require Learning Lab courses and course series, and technology and technology platforms developed or redesigned with Learning Lab funds, to be available as open educational resources. Learning Lab considers "open educational resources" to be any educational resources released under one of the Creative Commons licenses (or its equivalent) other than CC-BY. Open educational resources include, but are not limited to, full courses, course materials, modules, textbooks, faculty-created content, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge.

As part of the terms of grant agreements, awardees will agree to release all resources developed with Learning Lab grant funds under one of the Creative Commons licenses (or its equivalent) other than CC-BY. The Learning Lab excludes the CC-BY license out of concern that this license would potentially allow outside entities to build upon products developed with Learning Lab funds for commercial purposes, but then place larger restrictions on access to the resulting product than the permissions of the original product. Learning Lab goal is to avoid the possibility that modified or subsequent versions of resources developed with Learning Lab funds might be "walled off" by an entity using them for commercial purposes. Learning Lab does not require that resources necessarily be free to users in order to be considered "open educational resources," but instead encourages projects to make resources developed with Learning Lab funds available to additional users either at no cost or at minimal, necessary, reasonable cost depending on the expense necessary to support its use.

How will money flow for awarded projects?

Project teams should anticipate submitting invoices, either based on expenditures made or progress made on the project, according to the specific terms of the grant agreement and agreed-upon budget plan. The "host institution" will act as the fiscal intermediary for purposes of grant administration and for receipt of grant funds. That institution will enter into a grant agreement with the Foundation for California Community Colleges (the Governor's Office of Planning and Research's designated entity to administer Learning Lab) and will the distribute grant funds to the partner institutions on the basis of sub-awards.

Can grant funding be used for student or faculty support such as scholarships or housing? *

No. Learning Lab funds are not intended for this purpose. However, funds may be used for student or faculty stipends, as long as there is a related programmatic component. Students or faculty receiving the stipend would need to be actively involved in project activities. (Added 1/4/21)

Does the grant use subawards or some other mechanism to form the partnership? If a UC campus is the host institution and a CSU campus, for example, is a partner institution, will

funds to the latter show up as a subaward of a single grant? *

Yes, the host institution is the awardee, and the partner institutions are the subawardees. The host institution acts as the fiscal agent or intermediary for the partner institutions. The grant agreement will consist of a single contract between the Foundation and the host institution. The subawards to the partner institutions will be reflected in the grant agreement, but there are no separate contracts between the Foundation and the subawardees. (Added 1/12/21)

Can funds be used for student stipends for a non-credit-bearing bridge experience to Calculus? These stipends would be to encourage students to attend this voluntary program and to offset any potential income lost from participating in our summer program instead of getting a job, etc. *

No. Stipends or remuneration for students can only be made to students who are actually working on the project in some capacity (not participating as a student). The exception to this is de minimus type incentives (e.g., small bookstore vouchers) to participate in out-of-class surveys, or things that could not be made part of a classroom requirement. (Added 1/12/21)

Once an award is provided to a host institution from the Foundation for California Community Colleges, how are sub-awards provided? Is it through the Foundation, the district, or institution? *

Subawards will flow through the Host Institution. Please note, however, that all project awards come from the State General Fund. (Added 2/2/21)

Are sub-awards made by the Learning Lab or by the host institution? *

Subawards are made by the host institution pursuant to the budget and terms memorialized in the grant agreement between the Learning Lab/Foundation for California Community Colleges and the host institution. Changes to subawards beyond a specified threshold must be approved by Learning Lab. (Added 2/2/21)

Regarding the budget in the concept proposal stage, is there a specific format or level of detail required? *

No, there is no specific format or level of detail for the budget required at the concept stage. You may write to the level of detail desired, within the page length considerations. You may want to review the concept proposal rubric, item #4, which addresses budget alignment to the project plan (along with the other rubric sections), and provide enough information to balance out and shed light on your proposal. For applicants invited to the full proposal stage, we will require detailed budget information and justification by host and partner institutions (individually), according to a template that will be provided on our website. (Added 2/2/21)