

2023 Office of the Provost Teaching and Learning Grants

The Office of the Provost provides funding opportunities for faculty looking to integrate new educational methods and technologies into their classes and learning environments.

This request for proposals seeks innovative projects to design course modules, entire courses, or massive open online courses (MOOCs) and supports teaching initiatives at the department, program, or school level. Proposals from all disciplines and subject areas are welcome, and awardees will develop projects over the next academic year. There are seven different grant types with different funding levels. These are described below.

The deadline to submit proposals is Monday, May 1, 2023, at 5:00 P.M.

Proposals should aim to measure the impact and effectiveness of these designs, pedagogies, and learning strategies, improve teaching, and enhance Columbia University students' learning outcomes in all disciplines. Faculty who receive grants are expected to spend awarded funds as proposed and to collaborate with the Center for Teaching and Learning (CTL) and other partners. Proposals can include requests for in-kind support from the CTL for course and project design, content development, training in new pedagogies, media production, software development, assessment and evaluation, and project management.

This year, the Office of the Provost has allocated **additional funding** to encourage faculty to innovate and experiment pedagogically with generative Artificial Intelligence (AI) tools (e.g. ChatGPT) in courses or curricula. Faculty are encouraged to consider how AI tools can be leveraged to enhance teaching and learning in all of the grant options included below. Other than an idea for pedagogical innovation, such as incorporating AI tools into assignment design, assessment practices, or classroom policies, there are no additional requirements to request a consultation with the CTL to discuss a potential project.

Faculty who are already using or conducting research on the integration of AI tools like ChatGPT in their classes should reach out to the CTL to discuss additional support and potential funding by writing to ColumbiaCTL@columbia.edu.

All prospective grant applicants are encouraged to schedule a consultation with the CTL to develop the project plan and the appropriate in-kind support level. If you're considering a project that includes software development or the creation of new media as in-kind support, a consultation with CTL partners is strongly recommended. Please contact ColumbiaCTL@columbia.edu with any questions or to schedule a consultation.

To learn about previous grants, view the awardees of the Spring 2022 Provost's teaching and learning grants for the <u>Innovative Course Design Grant</u>, <u>Massive Open Online Course (MOOC)</u> <u>Grant</u>, <u>Large-Scale Teaching & Learning Grant</u>, and the <u>Innovative Course Module Design Grant</u>.

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Innovative Course Module Design (Start Small!)

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Summary of Funding Opportunities

Grant	Purpose	Funding	For
Innovative Course Design (full course; new or existing)	increase teaching effectiveness and student engagement through the creative use of new pedagogical strategies and/or digital tools; the use of technologies to create evergreen resources for foundational courses	up to \$20,000 + in-kind support from CTL	courses taught in: Fall 2023 Spring 2024 Summer 2024
Innovative Course Module Design (Start Small!)	support experimentation with a new pedagogical strategy or tool (not a full course redesign)	up to \$2,000 + in-kind support from CTL	courses taught in: Fall 2023 Spring 2024 Summer 2024
Interdisciplinary Teaching Initiatives (ITIs)	support teams of 2-4 faculty from different disciplines/departments/schools to work collaboratively on the design and launch of innovative teaching initiatives that will benefit undergraduate or graduate learners across two or more departments and/or schools	up to \$20,000 + in-kind support from CTL	2023 - 2024 academic year
Large-Scale for Departments, Programs, or Schools	support large-scale, coordinated efforts around teaching initiatives in a department, program, or school; the use of technologies to create evergreen resources for foundational courses	up to \$20,000 + in-kind support from CTL	2023 - 2024 academic year
Massive Open Online Courses (MOOCs)	reach global audiences, make more visible the teaching and research activities of the University while promoting public engagement	up to \$25,000 + in-kind support from CTL	offered in 2024

Emerging Technology Grant	support experimentation with new pedagogical strategies using extended reality technologies (augmented/virtual reality, 3D scanning/printing)	up to \$20,000 + in-kind support from CUIT	courses taught in: Fall 2023 Spring 2024 Summer 2024
SOLER Seed Grant	conduct formal research to address questions about teaching and learning in a disciplinary context	up to \$5,000 + in-kind support from SOLER	courses taught in: Fall 2023 Spring 2024 Summer 2024

Proposal Requirements and Checklist

Proposals should be five pages (not including the cover sheet) and should include:

- Cover Sheet: Include the name and affiliations of all PI(s) and the title of the course or project.
- Course or Project Description: Provide an overview of the course or project. Include intended audience, student enrollment figures, and information on department support for the design of the course.
- Rationale and Improved Learning Outcomes: Write a strong, compelling rationale for the project, including how the project will improve or enhance students learning outcomes and engagement.
- Project Activities: Describe the course or project activities.
 Below are guidelines on how to complete this section if applying to the Innovative Course Design, Innovative Module Design, Interdisciplinary Teaching Initiatives, and Emerging Technology grants.
 - Describe the course design as it currently exists or the vision for a new course.
 - Specify which student learning outcomes will be enhanced or improved through the course design or redesign.
 - Describe how the course design or redesign will structure the student learning experience through enhanced engagement with course materials, instructors, faculty, and other students.
 - If applicable, describe new technologies and/or media and how their inclusion will enhance student engagement and learning.
 - Describe course assessments or appropriate changes to the current assessments (e.g., assignments, exams, projects, problem sets) due to the course design or redesign.

- **Evidence Supporting Design**: Articulate how the course/project design or redesign aligns with theories and methods in teaching and learning research and scholarship.
- Assessment/Evaluation Plan: Describe a plan to measure the impact on student learning and the course or project outcomes and effectiveness.
- In-kind Support Request:
 - The CTL can offer support in learning design, assessment, project management, media production, and software development. The CTL encourages all prospective grant applicants to schedule a consultation to develop the project plan and the appropriate in-kind support level. Please contact ColumbiaCTL@columbia.edu to schedule a meeting.
 - For the Emerging Technology and the SOLER Seed Grants, prospective grant applicants are strongly encouraged to schedule a consultation with etc-contact@columbia.edu and soler@columbia.edu respectively.
- Budget and Budget Justification: Provide a detailed budget and budget justification
 for funds. Funds are available for course preparation, external course content,
 technology and media development costs, administrative costs, and undergraduate or
 graduate teaching assistants/course assistants. For Large-Scale Grant projects,
 describe the anticipated supporting activities or materials in need of funding. Please
 mention all other sources of funding, if any.
- Course/Project Sustainability: For Interdisciplinary Teaching Initiatives (ITIs) and Large-Scale Grant projects only, include a plan that describes how the course/project will be sustained after implementation.
- Letter of Support: Comments from the department chair or vice dean on the
 importance of the proposal plan to the department and school will provide the review
 committee with additional information to base their funding decision. For
 Interdisciplinary Teaching Initiatives (ITIs), submit letters of support from all relevant
 Deans and Department Chairs. A letter of support is not a requirement for Large-Scale
 Grant proposals.

For more information about the scope of the grants and specific requirements, review the Grant Types section below.

Eligibility

- Full-time and part-time faculty are invited to apply for these grants, with some exceptions below. Individual faculty, groups of faculty from the same department, and interdisciplinary teams are welcome to apply; however, teams will receive one award.
- MOOC awards are open to full-time faculty only. Review specific eligibility for MOOCs.

- SOLER Seed Grants are open to full-time faculty only. Review specific eligibility for SOLER Seed Grants.
- Eligible courses will run during either fall 2023, spring 2024, or summer 2024.
- The CTL encourages all prospective grant applicants to schedule a consultation to develop the project plan and the appropriate in-kind support level. Please contact ColumbiaCTL@columbia.edu to schedule a meeting.

Grant Types

Innovative Course Design

This grant supports the redesign of existing courses or the design of new courses to improve teaching and learning using innovative learning strategies. Designs advanced by technology or media-enhanced pedagogy are encouraged but not required. Awardees will receive in-kind support from the CTL and funds up to \$20,000.

We encourage approaches that re-imagine class as a space for active and collaborative learning, where pedagogical innovations provide many opportunities for creative change within the Columbia curriculum. These novel modes of education allow for the thoughtful exploration of new teaching methods, course designs, and strategies for promoting active learning.

This request for proposals identifies innovative courses to be developed over the next academic year. Proposals from all disciplines and subject areas are welcome, but we particularly encourage those that:

- Develop ideas with significant potential to enhance teaching effectiveness and student learning and engagement.
- Make creative use of custom tools, online platforms, visualizations, media, etc., to make the course more accessible and engaging to students and/or to support course assignments
- Include consideration of professional development needs to train instructors in new or alternative pedagogies to accommodate newly designed courses or delivery approaches.
- Include consideration of any necessary or novel skills or digital literacies that students will need to engage in the new course format.
- Lead to measurable impact on student learning.

Innovative Course Module Design (Start Small!)

This grant supports experimentation with a new pedagogical strategy or tool without attempting a full course redesign. These grants are designed to promote innovative thinking about and approaches to teaching, learning, and student engagement that involve scalable high-impact practices and thoughtful assessment of student learning.

Faculty who have ideas for course innovation are encouraged to use this Course Module Design (Start Small!) grant to pilot tools and/or pedagogical strategies that could be expanded into a future Innovative Course Design grant proposal. Successful recipients of the Course Module Design grant will be given special consideration for future Innovative Course Design funding opportunities.

Awardees will receive in-kind support from the CTL and funds up to \$2,000.

Examples of potential grant-funded expenses for the Course Module Design grant include:

- Devices and software to support active learning practices (e.g., screencasting, adaptive learning software);
- Software and devices for laboratory and maker projects;
- Training and supplies for innovative pedagogical methods such as Reacting to the Past, game-based learning, team-based learning, case-based teaching, and peer-led learning;
- Resources for teaching development or to support faculty development related to a
 discipline-specific or other instructional innovation, such as books, webinar or
 conference attendance; and
- Hardware or software to support innovations aimed at making learning materials more accessible and inclusive (e.g., speech recognition / captioning software, media production software).

Interdisciplinary Teaching Initiatives (ITI)

The Interdisciplinary Teaching Initiatives award is designed to support faculty from different disciplines/departments/schools to work collaboratively on the design and launch of innovative teaching initiatives that will benefit undergraduate or graduate learners across two or more departments and/or schools. Awardees will receive in-kind support from the CTL and funds up to \$20,000 for teams of 2-4 faculty from different departments/schools to consider, develop, and launch interdisciplinary initiatives that enhance student learning. The project must have the

potential for making a significant, lasting impact across department/school/program beyond the funding period and must be sustainable. Awardees will also commit to sharing their project as a model for changing approaches to teaching in their home departments/schools.

The types of projects that could be supported through this grant are initiatives such as:

- Developing *interdisciplinary* project-based courses to serve as foundational or capstone courses across departments or schools;
- Integrating interdisciplinary experiential learning opportunities (study abroad, internships, community engagement, research with a faculty member, etc.) and assessments of experiential learning across courses and programs;
- Consideration of writing-intensive or research-intensive courses *across disciplines* to further collaboration, coordination, and information fluency;
- Collaborative development of teaching evaluation and review practices across departments or schools, such as implementation or revision of peer review processes, best practices in using student evaluation data (for administrators and faculty), teaching observation training for departmental reviewers
- Planning and curricular alignment of digital projects (such as capstones, digital humanities research, and maker space assignments) in majors or Core courses across disciplines or schools with learning design and assessment.

Proposals must involve faculty from two or more departments or schools and may be in collaboration with centers or institutes. Proposals are welcome from all departments and schools at Columbia, as are all disciplines and subject areas. Pls must submit letters of support from all relevant Deans and Department Chairs.

Successful proposals will:

- Demonstrate thoughtful interdisciplinary collaboration around teaching initiatives or curriculum development, involving two or more instructors and/or administrators from different disciplines/schools/departments;
- Describe how the interdisciplinary collaboration will improve student learning at the undergraduate or graduate level;
- Include appropriate learning goals and methods of assessing student learning based on the teaching initiative;
- Have the potential to become sustainable;
- Provide realistic budgets that effectively leverage available funding.

Large-Scale Teaching & Learning Grant

The Large-Scale Teaching & Learning grant offers in-kind or financial support of up to \$20,000 per academic year to support large-scale, coordinated efforts around teaching initiatives. The project must have the potential for making a significant, lasting impact within a department/school/program beyond the funding period and must be sustainable. The types of projects that could be supported through this grant are large-scale initiatives such as:

- Curriculum review (course requirements for majors and/or program curricula), including assessment practices, capstone courses, mapping courses and student pathways, and creating departmental learning outcomes;
- Integrating experiential learning (e.g. study abroad, internships, community engagement, research with a faculty member) and assessments of experiential learning at the course and program levels;
- Consideration of departmental teaching evaluation and review practices, such as implementation or revision of peer review processes, best practices in using student evaluation data (for administrators and faculty), teaching observation training for departmental reviewers, development of teaching portfolios, and ensuring equitable and inclusive processes for the review of teaching;
- Development of pedagogical facilitation skills, such as facilitating active learning and student engagement with material, peers, and instructors; inclusive teaching practices at the departmental and individual course levels; contemplative practices in teaching and learning; student reflective practices to build student metacognition for learning; and promoting and assessing learning in discussion-based courses;
- Development of robust support and resources for graduate student instructors
- Planning and curricular alignment of digital projects (such as capstones, digital humanities research, and maker space assignments) in majors or Core courses with learning design and assessment.

Massive Open Online Course (MOOC)

Courses offered through MOOC platforms have the potential to reach large and global audiences, to stimulate curiosity and intellectual exploration, to make more visible the teaching and research activities of the University, and to promote public engagement. While the experience of developing and producing a MOOC is rewarding, it can also be very demanding, requiring substantial time and resources from the faculty. With some productions lasting more than a year, it is critical to engage in careful planning and coordination of numerous activities, including course content, course design, media production, rights clearances, and publicity. The proposal process ensures that Columbia's MOOCs reflect the University's commitment to teaching excellence and that courses receive full support in each of these areas.

Proposals from all disciplines and subject areas are welcome. We particularly encourage proposals for courses that:

- Have curriculums previously developed and tested in the classroom
- Have a broad and general appeal to learners all over the world
- Have the potential to enhance existing courses at Columbia

Accepted courses will receive consultation services and support for instructional design, content and media production, and software development from the Columbia Center for Teaching and Learning (CTL). Funds will be available from the Office of the Provost for each MOOC of up to \$25,000. These funds and other funds available to the instructor(s) must cover all teaching and production costs (including teaching assistants/course assistants costs, rights clearances, and media costs that exceed the CTL's normal in-kind support). Read more about the MOOC RFP requirements.

SOLER Seed Grant

This grant facilitates and supports discipline-based education research (DBER) efforts at Columbia. DBER is the application of formal research methodologies to the scholarship of teaching and learning. The grant provides faculty members across the University with funding and in-kind support to engage in DBER – that is, to lead formal research efforts to better understand and improve teaching and learning in Columbia courses. Such efforts fall generally into two categories: (1) developing and empirically testing the impact of innovative pedagogical interventions, and (2) devising and/or implementing learning analytics procedures. Strong applications will propose interventions or analytics that are grounded in established learning science, feature an experimental or correlational design, and present quantitative methods for measuring student outcomes and/or behaviors.

The grant supports a wide range of DBER studies that will be implemented in the undergraduate or graduate curriculum at Columbia. As noted above, proposals should center around an innovative pedagogical intervention or learning analytics procedure. Possible project focal points include, but are not limited to, the following:

- Developing and implementing a novel and potentially transformative approach to teaching an undergraduate or graduate course at Columbia
- Situating a rigorously tested pedagogical approach that has been proven to work in one context within another
- Fostering new interdisciplinary collaborations between faculty or students
- Extracting novel insights from data generated by student behavior in the context of a course

Faculty can apply for up to \$5,000 for projects up to 12 months in duration. Funding is typically used for these types of expenses: equipment, media development, compensation for study

participants (typically students), compensation for research assistants, and conference registration.

SOLER will assist awardees through in-depth consultations. Services include framing research objectives and matching study designs to specific aims, developing or refining methods of assessment or evaluation, navigating the Institutional Review Board approval process, devising methods for data analysis and visualization, and developing a plan to disseminate findings. Read more about the SOLER Seed Grant RFP requirements.

Emerging Technology Grant

This grant supports faculty members who want to experiment with new pedagogical strategies using emerging technologies in their classrooms to improve teaching and learning along with improving student engagement and outcomes. These grants are designed to promote innovative approaches with emerging technologies specifically involving augmented/virtual/mixed reality and 3D scanning/printing.

Awardees will receive in-kind support from CUIT and funds up to \$20,000.

Examples of potential grant-funded expenses include:

- Augmented/virtual/mixed reality head-mounted displays
- Structured-light 3D scanner
- Desktop 3D printer including materials
- Computing hardware resources (ex: dedicated VR computing backpack)
- Augmented/virtual/mixed reality software packages

Contact etc-contact@columbia.edu to schedule a consultation.

Submission Procedure

Faculty submitting a proposal must complete the <u>proposal submission form</u>. In this form, you will be asked to attach your proposal with a letter of support, if applicable, as one PDF. This is a multipage form, so we recommend that you preview the submission questions for the grants (in PDF format) linked below.

- Innovative Course Design Grant
- Innovative Course Module Design Grant
- Interdisciplinary Teaching Initiatives (ITI)
- <u>Large-Scale Teaching & Learning Grant</u> for school, department, or program projects
- Massive Open Online Course (MOOC) Grant
- SOLER Seed Grant

Emerging Technology Grant

Deadline

The deadline is **Monday, May 1, 2023 at 5:00 P.M.** Future RFPs will cover courses to be offered in 2023 and beyond. We look forward to continuing to support Columbia faculty as they develop new and exciting enhancements of teaching and learning at the University.

Review Process

Proposals will be reviewed by a committee of faculty representing a range of disciplines and schools who will provide a recommended set of awards to the Provost.

Notification

Awards will be announced by **Friday, June 9, 2023**. Faculty will be notified of the award amount and will be assigned a CTL contact for the project. The CTL contact, together with a team of staff with appropriate expertise for the specific project, will provide support in instructional design, pedagogy, media and/or technologies, and assessment.

Reporting

Awardees are required to submit a summary report of project success and a description of expenditures to the Office of the Provost. The report should reference assessment and evaluation data and describe insights and conclusions, answering such questions as:

- For course-based projects:
 - How did the innovation support the student learning goals of the course and how did it impact the student experience of the course?
 - How well did the new curricular elements meet the original course design goals?
 - Were the lesson plans, instructional materials, media, and assessments, aligned with learning needs?
 - Reflecting back:
 - If you had the opportunity to do this all over again, with the same resources, what would you do differently?
 - What could be enhanced to improve student success overall?
 - Looking forward:

- With the above data and reflections in mind, how has this project--the experience, the data, your reflections--influenced your future course design decisions and/or teaching practice?
- How can you reasonably sustain the benefits of these course redesign decisions in the future?
- Based on what you learned on this project, what are some small changes you might make to other courses that you teach?
- For Large-Scale grant projects:
 - How well have participants achieved project outcomes?
 - How well were project activities implemented?
 - How did participants experience the project activities, both in terms of achievement of key outcomes and satisfaction?
 - Reflecting back:
 - If you had the opportunity to do this all over again, with the same resources, what would you do differently?
 - Looking forward:
 - With the above data and reflections in mind, how has this project--the experience, the data, your reflections--influenced your school's and/or your department's teaching and learning practices?
 - How can you reasonably sustain the benefits of these teaching and learning practices in the future?
 - Based on what you learned on this project, what other changes might you implement within your school or department?

Awardees will be invited to present on their projects at CTL events including the annual Celebration for Teaching and Learning Symposium in order to share the lessons learned with the broader Columbia community. Additionally, awardees might consider submitting an article for publication or presenting at a disciplinary or pedagogical conference. Please note: faculty who wish to make student data public as part of this dissemination may need to obtain IRB approval.

Support for Applicants

- Contact the CTL at <u>ColumbiaCTL@columbia.edu</u> to request a consultation. CTL
 consultants will help applicants select the appropriate grant, answer questions about
 the application process, and/or provide feedback on proposals.
- Register for an Office of the Provost RFP Town Hall offered on <u>Thursday, March 9 from</u> <u>11:00 A.M. -12:00 P.M.</u> or <u>Monday, April 3 from 12:00-1:00 P.M.</u> At this Q&A event,

- CTL, CUIT, and SOLER staff will answer questions about the types of awards and the application process.
- Register for the Assessment Tune-Up for Provost Grant Applicants offered on Wednesday, March 29 from 12:00-1:15 P.M. to build or refine the evaluation and assessment section of the proposal.
- Learn more about previous successful projects and interact with awardees at the Celebration of Teaching & Learning Symposium on Tuesday, March 21 and Thursday, March 23.

Appendix 1: MOOC RFP 2023 Requirements

Eligibility

- Full-time faculty.
- MOOCs to be released in 2024.
- A prior consultation with the CTL is strongly recommended before completing the proposal. Please contact <u>ColumbiaCTL+mooc@columbia.edu</u> to schedule a consultation.

Proposal Requirements

- I. Cover Sheet: Include name of the PI(s), title of the course, and school or department.
- II. Narrative: The narrative section (2-3 pages) provides an overview of the proposed course or course series, describing its rationale, approach (instructor-led or self-paced), intended audience, and length per course (6-8 sections per course recommended). While the narrative provides a course synopsis, it should also articulate your motives and aspirations. The specific form the narrative takes is flexible and will likely depend on the nature of the course being proposed. Respond, directly or indirectly, to the following questions:
 - Why is this particular course a good candidate for development as a MOOC?
 - How will this course take advantage of the scale, reach, or other affordances of the MOOC platforms?
 - How will this course engage a diverse and global audience?
 - What will be the longevity of the course beyond the initial run?
 - How will developing this course contribute to your teaching?
 - What parts of the course would you consider using in your Columbia courses?
 - How much new course material will need to be generated?
 - How does the course differ from existing classes offered by MOOC providers?
 - Describe any MOOCs you have participated in, as an instructor or a learner, and how that participation will inform your work on the MOOC.

Generally, course narratives will be strongest when they include specific examples of topics you will cover, teaching methods you intend to use, or activities that you hope to incorporate into the class.

III. Course Outline: The course outline indicates how the course will be divided into sections, subsections, or other logical units. For each section of the course, please provide a description of the topics to be covered, required readings, and assignments or other activities and number of hours of work expected of the students.

IV. Production Needs and Timeline: Describe in detail (2-3 pages) the specific materials that will need to be created for the course. This should include lecture scripts, assessments, multimedia, visualizations, textbooks, software, and anything else that will need to be created or purchased for the class.

This section should also include an estimated timeline or schedule for producing the course content, including the lecture scripts, student assessments and learning outcomes. Course and media production will begin after faculty submits the learning objectives, course content, and assessments for learning design evaluation.

V. Copyright: If the course will rely on copyrighted material (texts, images, videos, etc.), you will need to describe briefly (1 page or less) the nature and extent of these materials, as well as their relative importance within the course. Please indicate whether any public domain, open-access, or rights-free materials could be substituted for copyrighted works in the course.

VI. Promotion and Marketing: A description of how the instructor, department and school will promote the course offering.

VII. Budgets and Budget Justifications (1-2 pages): Funding up to \$25,000 can be used for course preparation, external course content, technology and media development costs, administrative costs, teaching assistants/course assistants, and rights clearances. Provide a detailed budget for these expenses. Please mention all other sources of funding, if any. Provide a detailed scope of work for in-kind support needed from the CTL.

VIII. Letter of Support: A letter of support from the applicant's Dean or Vice Dean must be provided. In order to provide the review committee with additional information to base their funding decision, deans or vice deans are invited to provide comments on the importance of the proposal plan for their school.

Appendix 2: Provost SOLER Seed Grants (PSSGs) 2023 RFP Requirements

Eligibility:

The Principal Investigator (PI) as well as Co-PIs (see below) must be full-time Columbia faculty members.

Postdocs, graduate students, part-time or adjunct faculty, and staff may be included on proposals as co-investigators but may not serve as PIs or Co-PIs.

Applicants are strongly encouraged to schedule an individual consultation with SOLER prior to submitting the application in order to develop the project plan and define the scope of in-kind support. Please contact soler@columbia.edu to schedule a consultation.

Proposal Requirements:

I. Project Summary

- Project title
- Designate one investigator as the Principal Investigator (PI). Include the PI's full name, title, department, and email address.
- List all other personnel (e.g., collaborators, graduate students, postdocs) as co-investigators. Use an asterisk to indicate any co-investigator designated as a co-PI (for example, if the application involves a collaboration between two faculty members).
- Abstract: Describe the project in non-technical language; articulate the problem the
 project addresses and your corresponding research question or objective; specify what
 makes the project innovative; describe your plan to ascertain student impact or other
 insights; state your overall hypothesis or predictions.

II. Project Scope

Framing

- State the problem that the project addresses and your corresponding objective.
- Identify specific research questions and explain how they align with the overarching objective. For each research question, state your corresponding hypothesis.
- Describe the overall methodology that will be used in this study, covering such factors as retrospective vs. prospective data collection, interventional vs. non-interventional, randomized vs. non-randomized, observational, experimental, etc.

Participants

- Identify your target participants (e.g., students).
- Specify how participants will be identified and contacted.
- Estimate how many participants will be impacted during the grant period.
- Briefly describe how the innovation will continue to benefit student cohorts beyond the PSSG duration (e.g., through curricular changes).

Rationale and Literature Review

- Describe how the project aligns with national and/or Columbia strategic initiatives.
- Highlight key findings of relevant educational research. Include citations as appropriate.
- Describe any prior work your team has done in this space.

Assessment and Evaluation Plan for Specific Aims

- Describe novel or to-be-adapted measurement tools (e.g., surveys).
- Outline key comparisons and briefly describe data analysis procedures.

Role of Key Personnel

- Specify the expectations and obligations of all project personnel.
- Outline expected needs for in-kind support from SOLER facilitators.

III. Project Timeline

Use a timeline to depict the schedule for your project. The timeline should include start and finish dates for your project as well as the dates or periods during which various project tasks will occur. Indicate how you will monitor the effectiveness of the project as it evolves. All elements of the project should be completed within 12 months of receiving funds.

IV. Budget Overview and Justification

Provide a detailed budget and justification for funds. Funding can be used for expenses such as equipment, media development, compensation for study participants (typically students), compensation for research assistants, and conference registration. Please mention all other sources of funding, if any. The total budget requested should not exceed the maximum award amount of \$5,000.

V. Letter of Support (1-page maximum)

A short letter of support from the PI's department chair must be uploaded as a separate PDF along with your application. The letter should specifically indicate (1) that students in the relevant course(s) may be recruited for the study, and (2) that the department will implement procedures to ensure that the financial and administrative responsibilities of the research will be met.