

CLOVER Computer Science Activities Request for Application

Presented by National 4-H Council and Google

2023 Request for Applications

Deadline: Friday, February 24, 2023 11:59 p.m. Eastern

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**NATIONAL 4-H
COUNCIL**

National 4-H Council

National 4-H Council (Council) is proud to collaborate with Google to reach 60,000 youth in collaboration with LGUs using CS Pathway. The purpose of this request for application is to support rapid development of new or enhancements of existing high-quality 4-H virtual and hybrid learning experiences to be delivered via Clover, Extension's digital positive youth development platform.

The ideal learning experience will consist of multi-activity (four to six), interactive learning modules to progress the learner along the 4-H computer science learning pathway—from sparking interest, to developing skills, to learning about career and real-world connections.

Tentative course titles, activity names, and topics are listed below. There will be a total of 45 activities published as part of this computer science initiative. These topics and courses listed below are subject to change. Any changes will be made in coordination with all participating LGUs to ensure that a robust set of lessons is implemented. There will be strategy sessions with all participating LGUs to align and finalize the activity topics and courses before developing or modifying any activity content. This may adjust the amount awarded to participating LGUs based on the final makeup of activities and courses.

Participating LGUs will only need to provide the source content and materials for the lessons. National 4-H Council will do the necessary design and implementation work for the activities, including developing a SCORM version of each activity. Participating LGUs will also be responsible for verifying the accuracy and adherence to PYD principles of the updated content at several milestones prior to final publishing. Finally, participating LGUs will be responsible for peer reviewing content provided by other LGUs using the rubric provided by National 4-H Council.

Preference will be given to LGUs that can develop 2 to 3 complete courses for a total of approximately 10-15 individual activities.

Clover CS Curriculum Plan

| Course | Activity | Topic |
|----------------------------|--|--------------|
| What is Computer Science? | What are computers? | CS Basics |
| What is Computer Science? | Computer hardware and Software | CS Basics |
| What is Computer Science? | Cloud Computing | CS Basics |
| What is Computer Science? | Computer languages | CS Basics |
| What is Computer Science? | Artificial Intelligence | CS Basics |
| Computer Science Unplugged | Deliver your package (Hack your Harvest) | CS Unplugged |
| Computer Science Unplugged | Code your Dance | CS Unplugged |

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| Computer Science Unplugged | Color your World | CS Unplugged |
| Computer Science Unplugged | Program your Playground | CS Unplugged |
| Computer Science Unplugged | Artificial Intelligence | CS Unplugged |
| Using Computational Thinking as a Starting Point | Instructions | Computational Thinking |
| Using Computational Thinking as a Starting Point | Decomposition | Computational Thinking |
| Using Computational Thinking as a Starting Point | Patterns | Computational Thinking |
| Using Computational Thinking as a Starting Point | Abstraction | Computational Thinking |
| Using Computational Thinking as a Starting Point | Algorithm | Computational Thinking |
| Computer Science Introduction to Coding | Commands | CS Level 1 |
| Computer Science Introduction to Coding | Functions | CS Level 1 |
| Computer Science Introduction to Coding | Loops | CS Level 1 |
| Computer Science Introduction to Coding | Variables | CS Level 1 |
| Computer Science Introduction to Coding | Conditional Code | CS Level 1 |
| Computer Science Intermediate Coding | Types and Initializers | CS Level 2 |
| Computer Science Intermediate Coding | Functions with parameters | CS Level 2 |
| Computer Science Intermediate Coding | Logical Operators | CS Level 2 |
| Computer Science Intermediate Coding | While Loops | CS Level 2 |
| Computer Science Intermediate Coding | Arrays | CS Level 2 |
| Computer Science Advanced Coding | TBD | CS Level 3 |
| Computer Science Advanced Coding | TBD | CS Level 3 |

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| Computer Science Advanced Coding | TBD | CS Level 3 |
| Computer Science Advanced Coding | TBD | CS Level 3 |
| Computer Science Advanced Coding | TBD | CS Level 3 |
| Coding Connected Devices to Function Autonomously | Programming in the physical environment | Connected Devices |
| Coding Connected Devices to Function Autonomously | Movement | Connected Devices |
| Coding Connected Devices to Function Autonomously | Loops | Connected Devices |
| Coding Connected Devices to Function Autonomously | Functions | Connected Devices |
| Coding Connected Devices to Function Autonomously | Sensors | Connected Devices |
| Using Technology as a Creativity Tool | Graphic Design | Digital Media |
| Using Technology as a Creativity Tool | Digital Photography | Digital Media |
| Using Technology as a Creativity Tool | Video Production | Digital Media |
| Using Technology as a Creativity Tool | Digital Art | Digital Media |
| Using Technology as a Creativity Tool | Digital Music | Digital Media |
| Using App Design to Solve Problems | Design Thinking | App Design |
| Using App Design to Solve Problems | Brainstorm | App Design |
| Using App Design to Solve Problems | Design and Layout | App Design |
| Using App Design to Solve Problems | Storyboarding | App Design |
| Using App Design to Solve Problems | Pitch and Evaluation | App Design |

Overview

Through the Cooperative Extension Committee on Organization and Policy's (ECOP's) 4-H Leadership Committee, the 4-H national partners (USDA/NIFA, The ECOP National 4-H Leadership Committee, The 4-H Program Leaders Working Group and National 4-H Council) have established an innovative technology program to provide positive youth development lessons and activities online. By strengthening and expanding CLOVER, Cooperative Extension's digital positive youth development (PYD) platform, state and local 4-H programs will be able to reach the six million youth served today and accelerate efforts toward reaching 10 million young people ages 5-18 and their families with high quality learning experiences—at a critical developmental moment for our nation's youth.

CLOVER is designed to meet the growing needs for virtual and non-virtual educational resources that can be easily used by families at home or rapidly adopted by educators and Extension professionals. It is intended to level the playing field and address the widening opportunity gap for youth and families as a result of the pandemic by providing universal access to supplemental at-home curriculum, engaging learning projects and supplies, and a virtual community of peers and positive adult mentors via:

- An immersive online and mobile experience where Extension educators and families can instantly access 4-H's research-backed, developmentally appropriate, hands-on K-12 learning.
- A connection point to a nationwide network of youth peers and caring adult mentors who support continued learning in a safe and supportive virtual environment.
- Unplugged, downloadable and mobile accessible activities within reach of vulnerable populations and youth with limited access to steady, high-speed internet. Virtual 4-H developmental opportunities will leverage significant investment in computer science training for 4-H youth.

CLOVER has scaled quickly, and currently features over 150 engaging, hands-on learning experiences powered by Extension's research-based, 4-H positive youth development programs.

Scaling CLOVER will enable Extension's 4-H educators more effectively utilize technology and create new digital learning resources building positive outcomes in workforce development and life skills-driven by STEM, Ag, Healthy Living and Civic Engagement/Community learning, while supporting 4-H's PYD outcomes like connection and engagement.

Currently, content for CLOVER is sourced from submissions of existing online activities and curriculum provided by 4-H youth development professionals across the country. While project personnel will continue identifying new content in this way, funding will also allow for a more proactive approach to dynamic content creation from the Extension system.

In this grant series, two to four grants of **\$3,000.00 PER ACTIVITY DEVELOPED** each will be awarded through this RFA, with applications scored against the following criteria:

- Demonstrated alignment of the activity and content with the topics listed above
- Integration into progressive curated "Learning Experiences" pathway toward workforce development.
- Demonstrated connections to one or more LGU departments or colleges that have provided related expertise or content.
- Demonstrated involvement of 4-H youth and teens in the development,

testing and delivery of the proposed content.

- Simplicity and clarity: activities simple and clear enough to be facilitated by a teen leader or adult with little to no subject matter expertise and minimal preparation time.
- Appropriateness of the activity for the target audience (applicants will need to specify the grade level for which their activity is designed).
- Strong encouragement of hands-on learning.
- Evidence of immersive, engaging, and fun delivery.

Funding Information and Eligibility

- This competitive sub-grant opportunity is only open to Cooperative Extension 4-H programs within land-grant universities (LGUs). The Request for Applications (RFA) is open to all LGUs .
- Grants of \$3,000 per activity developed will be awarded through this RFA up to \$45,000.
- Council will only issue sub-grants through LGUs that meet the criteria to be eligible for receiving grants from National 4-H Council. An LGU must submit a W-9 with their submitted application and the name reflected on this W-9 will be designated as the LGU's National 4-H Council approved Fiscal Representative Organization. This name will also be used for all associated agreements/contract and payments.
- Indirect or F & A costs will be allowed up to a maximum of 10% of sub-grantee's total grant award.
 - Example: Total award is \$40,000. If you choose to take the 10% ICR, it should be included within the \$40,000. The final award amount is \$36,000 programmatic costs and \$4,000 in ICR for a total of \$40,000. In no case shall your 10% go above and beyond the total sub-grant award.
- Sub-grant funds will be paid to sub-grantee as follows:
 - 60% within ten (10) business days after Council's receipt of a properly executed Sub-grant Agreement.
 - 40% within ten (10) business days after Council's receipt and acceptance of the Final content for CLOVER.
- Sub-grant funds remaining unspent by sub-grantee at the conclusion of the period of performance must be returned to Council. Unspent funds reported through the final financial report will be deducted from the final sub-grant payment.
 - Please Note: this language will be included in your contract: Notwithstanding the foregoing, Council shall be obligated only to make payments for costs and expenses actually incurred and allowable under applicable funding guidelines (federal, state, local or private, as appropriate) in an amount not to exceed the sums stated above.

Sub-Grant Requirements/Deliverables

- Sub-grant awardees will be required to enter into a sub-grant agreement with Council, which will incorporate terms of this RFA, the respective sub-grantees application, and terms customary to sub-grants of this type.
- By submitting an application, you certify your project will adhere to the training, ongoing technical assistance, evaluation, and reporting protocol and timing as outlined by Council in this RFA.
- The sub-grant period of performance will be March 1, 2023–August 1, 2024
- Content Submission Process for Successful Applicants:
 - Submission: Extension grantees must submit content and lesson plans aligning to the AFRI guidelines and Council templates through the online form at [4-H.org/Submit Activities](https://4-H.org/Submit_Activities).
 - Submission: Extension grantees should include all assets to support the activity or lesson plan (videos, images, infographics, graphics, tutorials, supply lists, etc.) in the submission.
 - Pre-review: The Council team will review all submissions and provide a timeline to the Extension grantee for first-round feedback. Council will work with the Extension grantee to re-brand submitted materials and ensure assets are in alignment with the National 4-H brand guidelines.
 - Review: Council staff will work closely with the Extension grantee to review and approve any changes to the Extension grantee's submission.
 - Revision: Council staff will create a final version of the submitted content, experiences and lesson plans to the Extension grantee for final feedback.
 - Distribution: Council will send a link to the published content, experiences and lesson plans to Extension grantees for promotion and distribution.
- Use the 4-H Name and Emblem in accordance with all relevant regulations when implementing and publicizing the sub-grant program.
- Recognize Google and Council as the donors of this sub-grant in promotional materials, online and on printed materials.

Sub-Grant Timeline

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| RFA Released | Week of January 16, 2023 |
| Conference call/office hours among eligible institutions to review deliverables and provide an opportunity for Q&A. https://4-h-org.zoom.us/j/89896590770 . | Thursday, January 26, 2023, 3:00pm-4:00pm Eastern |
| Application due via WebGrants portal at http://grants.4-h.org/index.do | Friday, February 24, 2023, 11:59 p.m. Eastern |
| Application approved by an 1862 State Program Leader, 1890 Program Administrator, or 1994 Program Administrator. | Tuesday, February 28, 2023, 11:59 p.m. Eastern |
| Applicants notified of award status via email. Sub-grantee agreement for awardees will follow. | On or before Wednesday, March 1, 2023 |
| Period of Performance | March 1, 2023- August 1, 2024 |
| Final Content Due | August 1, 2024 |

Award Selection/Components of the Application

A competitive evaluation of each application will be conducted, with a 100-point scale being used to select the sub-grantee(s).

Executive Summary (20 points, 2,000- character limit)

Provide an overview of the institution’s plan to implement this sub-grant opportunity.

Action Plan (40 points, 3,000-character limit)

Provide an overview of the funding request. Clearly state whether funds requested will be used to a.) develop a new, or; b.) enhance an existing content/learning experience. Also, state the target audience the content or learning experience is designed for. Provide a list of any materials and supplies that are required for participation.

Applicant must clearly demonstrate how the learning experience addresses each of the criteria below:

- Alignment of the activity and content with one or more of the Computer Science Categories listed above.
- Integration into progressive curated “Learning Experiences” pathway toward workforce development.
- Connections to one or more LGU department or college that have provided related expertise or content.

- Involvement of 4-H youth and teens in the development, testing and delivery of the proposed content.
- Simplicity and clarity
- Appropriateness of the activity for the target audience (applicants will need to specify the age range for which their activity is designed. Ex: Ages 5-8; 9-12; 13-18).
- Strong encouragement of hands-on learning.
- Evidence of immersive, engaging, and fun delivery.
- Degree of viability and relevance post-COVID where a hybrid approach to 4-H is likely.

Timeline (20 points, 2,000- character limit)

Include a timeline or milestone chart that indicates major tasks and goals achieved, assigns responsibility for each, and plots completion of each task for the duration of the tentative award.

Also include a mid-point progress check for the PI (as listed in your application), and members of the National 4-H Council CLOVER management team.

Budget / Budget Narrative (20 points)

Provide a detailed budget and budget narrative identifying how you plan to use the funds awarded.

Attachments Required

For the organization designated as the fiscal agency, if ACH Electronic Funds Transfer is desired form of payment, attach Electronic Funds Transfer Authorization Form to facilitate sub-grant payments. Form available from Council's Account Manager.

How to Apply

All applications *MUST* be submitted via Council's WebGrants online portal at <http://grants.4-h.org/index.do> by Friday, February 24, 2023, 11:59 p.m. Eastern.

All applications must be approved by an 1862 State Program Leader, 1890 Program Administrator, or 1994 Program Administrator by responding to the email generated upon submission of the application via WebGrants by Tuesday, February 28, 2023, 11:59 p.m. Eastern.

Tips on writing a successful application can be viewed at: <https://4-h.org/professionals/grants/>.

PLEASE NOTE: Council will only issue sub-grants through LGUs that meet the criteria to be eligible for receiving grants from National 4-H Council. An LGU must submit a W-9 with their submitted application and the name reflected on this W-9 will be designated as the LGU's National 4-H Council approved Fiscal Representative Organization. This name will also be used for all associated agreements/contract and payments.

Application must:

- Identify and provide contact information for the Principal Investigator (P.I.), the P.I.'s direct supervisor, the 4-H Program Leader or 4-H Program Administrator, the fiscal agency (payee) and fiscal contact person.
- For the organization designated as the fiscal agency, National 4-H Council will only process payments via ACH to ensure payments are received faster. If for any reason you cannot receive ACH and must do check, please indicate in application. If ACH, please attach Electronic Funds Transfer Authorization Form (available from Council) to facilitate payments. Note: If you opt for ACH, National 4-H Council requires you to submit a new ACH form for each applied grant opportunity.
- Confirm LGU agrees all monies will be used for expenses related to this grant opportunity in accordance with the grant deliverables or as approved by National 4-H Council.
- Confirm that the program is in compliance with an institution's 4-H policies and regulations governing background checks for adult professionals, volunteers, and leaders.

All applicants will be notified of award status via e-mail on or before, Wednesday, March 1, 2023.

Contact for Questions

Gabriella Barrow, Account Manager, National 4-H Council, gbarrow@fourhcouncil.edu.

