



Affordable Materials Grants, Round 18:
 Continuous Improvement Grants
 (Fall 2020 – Fall 2021)
 Proposal Form and Narrative

Notes

- The proposal form and narrative .docx file is for offline drafting and for our review processes. Submitters must use the online Google Form for proposal submission, including uploading this document.
- The only way to submit the official proposal is through the Google Form. The link to the online application is on the [Round 18 RFP Page](#).
- The italic text provided below is meant for clarifications and can be deleted.

Applicant and Team Information

The **applicant** is the proposed Project Lead for the grant project. The **submitter** is the person submitting the application (which may be a Grants Officer or Administrator). The submitter will often be the applicant—if so, just leave the submitter blank.

Requested information	Answer
Institution	Kennesaw State University
Applicant name	Sarah North
Applicant email	snorth@kennesaw.edu
Applicant position/title	Senior Lecturer
Submitter name	<i>The same as Above</i>
Submitter email	<i>The same as Above</i>
Submitter position/title	<i>The same as Above</i>

Please provide the first/last names and email addresses of all team members within the proposed project. Include the applicant (Project Lead) in this list. Do not include prefixes or suffixes such as Ms., Dr., Ph.D., etc.

Team member	Name	Email address
Team member 1		
Team member 2		
Team member 3		
Team member 4		

Team member 5		
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If you have any more team members to add, please enter their names and email addresses in the text box below.

Project Information

Requested information	Answer
Type of Project	<ul style="list-style-type: none"> • Revision of open educational resources (OER) used in existing courses • <i>Creation of ancillaries for existing OER courses</i> • <i>Replacement of current OER in courses with new/better OER</i> • <i>Other</i>
Requested Amount of Funding <i>\$10,000 maximum total award per grant</i>	\$2,800
Course Titles and Course Numbers	CS 4712 User Interface Engineering
Final Semester of Project	<ul style="list-style-type: none"> • <i>Summer 2021</i> • Fall 2021
Currently Existing Resource(s) to be Revised/Ancillaries Created <i>Please provide a title and web address (URL) to each of the currently existing resources that you are revising, creating new ancillary materials for, or replacing. If replacing, please include a title and web address (URL) to the new OER as well.</i>	http://ksuweb.kennesaw.edu/~snorth/ALG_CS4712_UIE/indexALG.html

Project Goals

In at least one paragraph, describe your project's goals and what materials will be created or revised.

The CS-4712 User Interface Engineering (UIE) course not only aims to keep a low financial burden imposed by the high cost of textbooks but also strives to develop free, open-access, and up-to-date learning materials to offer compelling educational adaptations for Open Educational Resources. This grant would improve on the effectiveness previously supported by ALG round 12. Furthermore, this course creates a bridge with fast-paced emerging technologies in the User Interface with Artificial Intelligence (AI) and Machine Learning (ML). In addition, it establishes a map with new concentrations of in Artificial Intelligence and Machine Learning as core courses in our new Computer Science/Bachelor of Science in Computer Science (BSCS) at Kennesaw State University. UIE is one of the major elective courses in our new track that is being taught by the principal investigator in the department of Computer Science.

The main goal of this project/grant is Continuous Improvement, which will take the substantial effort of open educational resources to improve the CS-4712 User Interface Engineering (UIE) course that has been integrated into Kennesaw State University, Bachelor of Science in Computer Science curriculum over many years. Currently, the basic component is introduced in the UIE course; however, the Cognitive Computing era relies on Artificial Intelligence and Machine Learning that can provide organizations with prescriptive options for user decision making and involvement, hands-on training, user-centric design research, design thinking, visual prototyping, and interface/Visual design theory.

Incorporating Artificial Intelligence and Machine Learning in this course and mapping onto our BSCS curriculum, using Cognitive Computing and cutting-edge technologies devices such as Virtual Reality, Oculus quest, Unity 3D, VRML, DJI Phantom Drones, Microsoft HoloLens, EPOC+, a High-resolution multiple-channel EEG designed by Emotive, and HTC VIVE Virtual Reality Headset in User Interface Engineering courses will result in providing a dynamic creation of ancillaries for existing OER courses and substantial improvements in this course. It will also meet the goal of Affordable Learning Georgia for continuous improvement.

Action Plan

Describe the tasks needed to complete the project in as much detail as possible. If this application has more than one team member, include the major roles for each person and which tasks this role is assigned. Estimate the amount of time (e.g. number of hours) each task will take. Include plans for open licensing and plans for making your materials accessible. Indicate if you are using other platforms in addition to the repository to host your created materials.

Dr. Sarah North, the principal investigator, will investigate, develop, implement, evaluate, compile and submit a final report by incorporating cognitive computing through artificial intelligence and machine learning techniques and technology.

Dr. North will lead all the aspects of the CS-4712 User Interface Engineering course materials of this Continuous Improvement grant as follows:

- Investigate and conduct research into the following additional materials:
 - Emerging Techniques & Technologies of Artificial Intelligence & Machine Learning
 - Generalization & Democratization of Artificial Intelligence & Machine Learning
 - Natural-Languages Understanding and Generation
 - Use of Artificial Intelligence & Machine Learning in Building Business Functions
 - Ethical Challenges of Artificial Intelligence & Machine Learning
 - Text Analytics, Automation, and Knowledge Management & Intelligent Search
 - Data Collection & Analysis of Emerging Artificial Intelligence & Machine Learning Techniques and Technologies
 - Usability Approaches Considering Artificial Intelligence & Machine Learning Techniques and Technologies

- [Estimated Hours: 30 hours – November & December 2020]

- Develop new revision/complimentary materials and update the UIE course:
 - Complete the modification of course syllabus by including new materials into the course learning objectives and outcomes.
 - Design and develop new resources and complete specific PowerPoint presentations for each topic.
 - Map and design new no-cost-to-students learning materials to learning modules.
 - Design new assignments, labs activities, projects, quizzes, and exams.

- [Estimated Hours: 50 hours – January 2021 through April 2021]

- Implement in classroom by incorporating new revised materials into the D2L (the Learning Management System).
 - *[Estimated Hours: 20 hours – May 2021]*
- Solicit feedback from students by conducting several surveys and adjusting the resources and contents.
 - *[Estimated Hours: 15 hours – June 2021]*
- Assess student performance on in-class quizzes and exams.
 - *[Estimated Hours: 10 hours – June & July 2021]*
- Compile and Write a final report documenting the effectiveness of the materials created.
 - *[Estimated Hours: 10 hours –August-Fall 2021]*

Timeline

Provide a project timeline aligned with the action plan above. Include major milestones and deadlines, keeping in mind your selected Final Semester.

Milestone_1 – Fall 2020

- NOVEMBER & DECEMBER 2020 :: Investigate and conduct research into the following additional materials of CS 4712
- Milestone deliverable: Sarah North, PI

Milestone_2 – Spring 2021

- JANUARY 2021 THROUGH MAY 2021 :: Develop new revision/complimentary materials and update the UIE course lecture notes, assignments/labs/projects
- Milestone deliverable: Sarah North, PI

Milestone_3 – Summer 2021

- JUNE-JULY 2021 :: Adapt and Implement new materials in the course by incorporating new revised resources into the D2L (the Learning Management System)
- Milestone deliverable: Sarah North, PI

Milestone_4 – Fall 2021

- AUGUST – FALL 2021 :: Compile and Write a final report documenting the effectiveness of the materials created.
- Milestone deliverable: Sarah North, PI

Budget

Please enter your project's budget below. Include personnel and projected expenses, keeping in mind that this grant funds the estimated time in your Action Plan. The maximum amounts for the award are as follows:

- \$2,000 maximum per team member for salary, course release, travel, etc.
- Additional project expenses allowed, but must be adequately justified in this section
- \$10,000 maximum total award per grant

1. Personal

- Course Developer, Dr. Sarah North, PI will receive 2021 Summer pay and/or other items below for the amount of \$2,000

2. Other

- Travel/Equipment (conference registrations fees, iPad, other computer equipment, etc.), for the amount of \$800

3. Total \$2,800

Creative Commons Terms

I understand that any new materials or revisions created with Affordable Learning Georgia funding will, by default, be made available to the public under a Creative Commons Attribution License (CC-BY), with exceptions for modifications of pre-existing resources with a more restrictive license.

Accessibility Terms

I understand that any new materials or revisions created with Affordable Learning Georgia funding must be developed in compliance with the specific accessibility standards defined in the [Request for Proposals](#).

Letter of Support

The **Department Chair** from the corresponding project, or the Department Chair's direct report such as the Dean or Provost, must provide a signed Letter of Support for the project. This letter should acknowledge the following:

- The department will provide support for fund disbursement in correspondence with the Grants/Business Office.
- The department approves of the work on the proposal by the applicant(s).
- The department acknowledges the sustainability of these affordable resources after the grant work is complete.

In the case of multi-institutional affiliations, all participants' institutions must provide a letter of support.

Please provide the name and title of the department chair (or other administrator) who provided you with the Letter of Support.

Coskun Cetinkaya, Chair
Department of Computer Science
Kennesaw State University

Grants or Business Office Letter of Acknowledgment

***Institutional Grants/Business Offices** will be responsible for fund disbursement, often in correspondence with the Department Chair, including expense and travel reimbursement. Applicants will need to provide a short Letter of Acknowledgment stating that the Grants/Business Office knows about the applicant's intent to apply for an Affordable Materials Grant. Either the Department Chair or the Project Lead can work with the Grants/Business Office to get this signed letter.*

In the case of multi-institutional affiliations, all participants' institutions must provide a letter of acknowledgment.

Please provide the name and title of the grants or business office representative who provided you with the Letter of Acknowledgment.

Kimberly Hunt
Grants and Contract Manager
Office of Research
Kennesaw State University