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](https://www.affordablelearninggeorgia.org/about/rfp_r18).
* The italic text provided below is meant for clarifications and can be deleted.

# Applicant and Team Information

|  |  |
| --- | --- |
| Requested information | Answer |
| Institution | Georgia State University |
| Applicant name | Shuguang Hong |
| Applicant email  | shong@gsu.edu |
| Applicant position/title | Clinical Associate Professor / Associate Chair of the Department of Computer Information Systems (CIS) |
| Submitter name  |  |
| Submitter email  |  |
| Submitter position/title |  |

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 | Shuguang Hong | shong@gsu.edu |
| Team member 2 | Karah Hagins | khagins@gsu.edu |
| Team member 3 |  |  |
| Team member 4 |  |  |
| Team member 5 |  |  |

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

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# Project Information

| Requested information | Answer |
| --- | --- |
| Type of Project | *Improving Affordability of CIS 4850 Cloud Computing and Application Development* |
| Requested Amount of Funding*$10,000 maximum total award per grant* | *$10000* |
| Course Titles and Course Numbers | CIS 4850 Cloud Computing and Application Development |
| Final Semester of Project | *Fall 2021* |
| Currently Existing Resource(s) to be Revised/Ancillaries Created | CIS 4850 iCollege site: <https://gastate.view.usg.edu/d2l/home/2129370>  |

# Project Goals

Cloud computing has been regarded as one of most important information technologies (IT) in the last decade. Software development including cloud application development has been forecasted to produce over 660,000 jobs in 2020 with 28% job growth rate according to U.S. Bureau of Labor Statistics’ Occupational Outlook Handbook. *CIS 4850 Cloud Computing and Application Development* is designed to prepare CIS students with the knowledge and skill that are essential to meet the explosive demand in the job market. CIS 4850 is also a required course in the application development track in the CIS undergraduate program which has been ranked among the top ten MIS programs in the county by US News.

The CIS 4850 class has been offered since Fall 2019. Two major changes have been made in Fall 2020, the third offering of the course. First, the class requires no textbook. It uses course materials developed by the instructor combined with learning materials available online or subscribed by the university such as Linkedin Learning and Gartner IT Library. These materials are available at no cost to the students.

Second, the class format has been changed from in-person to asynchronous online because of the VOID-19 pandemic. In this very unpredictable and stressful situation, the number of enrollments of the class has increased to 35 which is the max number of licenses of the adaptive learning platform software, *Realizeit*  that the CIS department has been able to purchase for this class. The class size is almost doubled since Fall 2019. In addition to the availability of class material at no cost to the student, we expect the accessibility and flexibility afforded by the asynchronous online format of the class would contribute to significant increase in enrollments.

Thus, the main objective of this project is to improve the current CIS 4850 course materials to create an affordable and sustainable course offering for adaptive, self-paced online learning. At the completion of the project, the project team will produce well designed and tested course materials including course syllabus, lecture notes with companying videos developed by the instructor, compiled open online learning materials, assignments, projects, and the design of a delivery method of all learning materials for adaptive, self-paced online learning.

This project will contribute to the OER implementation of USG. All course materials developed by this project will be hosted by and available through GALILEO. Furthermore, the design of the delivery of adaptive, self-paced online learning to students will contribute to the teaching innovation. We will share our experience in this delivery method with faculty in teaching workshops and seminars in the college. We will develop recommendations for CIS courses in the graduate and undergraduate programs for them to adopt the adaptive learning platform. Those programs in this discipline have over 900 students per year. Those students can potentially benefit from the project. Thus, the project will contribute to the creation of an online pathway for students to complete the CIS degrees, and is aligned with the strategic goal of the university to provide a fully at distance pathway to degree completion in the largest major (CIS) in the Robinson College of Business.

Affordability and sustainability are the central goal for the project. As shown in the budget table, a significant portion of the budget is allocated to cover the software license and the support of *Realizeit*, the software used to host and deliver adaptive, self-paced online learning to students, which allows the project team members to focus on the course development to achieve the project objectives. It also helps attract students to take the course and relieve them from the financial burden on the cost of the course materials. Student feedback is critical to the success of the project because it will help improve the design and delivery of the course materials.

After the completion of the project, the total resource cost for students in this course will be $30/person if we continue to use *Realizeit* to host and deliver the adaptive, self-pace learning, which is 25% lower than the $40.00 resource cost target of the ALG. This grant will also allow us the opportunity to explore other hosting options including open source platforms that will further decrease the recourse cost per student.

# Action Plan

The table below shows the responsibilities of each team member in the project.

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| --- | --- |
| Team Member | Responsibilities |
| Dr. Shuguang Hong | subject matter expert, course developer, and instructor of record for CIS 4850 |
| Ms. Karah Hagins | Learning experience designer at the Center for Excellence in Teaching & Learning (CETL), GSU, and assistant in course design |

The project consists of the following tasks organized by semesters:

**Fall 2020: Conversion of Current Course Materials**

* The instructor will complete the conversion of current CIS 4850 course materials developed for the in-person classes to asynchronous online learning materials including lecture notes and videos, assignments, projects, and assessments
* The designer will assist in improving the design of those course materials for the self-paced online learning experience
* The instructor will host the course materials in the *Realizeit* software platform to deliver the self-paced online learning
* At the end of the semester, the team will collect student feedbacks, assessment data, and learning statistical data in both iCollege and *Realizeit* to analyze and evaluate the course design, the course materials, the student learning outcomes, and the learning experience to identify the areas for improvement

**Spring 2021: Improvement of Course Materials and Course Design**

* The instructor will work with the designer to implement identified improvements on the course design, the course materials, and the adaptive, self-paced, online delivery method
* The instructor will monitor student learning and collect statistical data on a weekly basis
* At the end of the semester, the team will again collect student feedback, assessment data, and statistical data in both iCollege and *Realizeit* to evaluate the effectiveness of the improvements and identify areas for further improvement.

**Summer 2021: Course Contents Update and Expansion**

* CIS 4850 will not be offered in the summer. The team will use the summer to analyze collected data, identify areas for improvements, and implement the improvements to be ready for Fall 2021
* Given the rapid pace of IT advances, the instructor will use the summer semester to update his knowledge and skills in cloud computing and application development, by attending workshops, seminaries, conferences, and self-study.
* The instructor will update the course contents to reflect the advances in the technology
* The instructor will incorporate new contents into the course materials to reflect the technology advances
* The designer will assist in all course design activities
* Given the large job market demand and shortage of qualified graduates to fill open positions, the instructor will work with the CIS department to launch a campaign to promote CIS 4850 to attract students to this field. The main objective is to scale up the course offering and increase the enrollment of the class.

**Fall 2021: Promotion and Explore Alternative Hosting Options**

* The first focus in the fall semester is to the in-depth study on the student learning outcomes and learning experiences in this course
* The second focus is to research the affordability and sustainability of the course offering by exploring alternative platforms to deliver adaptive, self-paced online learning. The objective is to reduce the required resource cost for students below $30.00 per student.

# Timeline

The action plan in the previous section outlined the major milestones aligned with semesters. The timeline table below provided additional key dates.

|  |  |
| --- | --- |
| Dates | Milestone |
| 10/30/2020 | Attend online kickoff meeting if the project is funded |
| 12/18/2020 | * Complete the conversion of all course materials from in-person learning to online learning
* Complete learning data collections through surveys, iCollege, and *Realizeit*
 |
| 12/21/2020 | Defined areas for improvements, their priorities, and an action plan for implementing the changes in the spring 20201 |
| 1/8/2021 | * Complete modifying course syllabus and assignments
* Complete improvements based on the plan
* Complete iCollege site set up and ready for the spring
 |
| 1/15/2021 | Conduct class surveys on student learning habits to assess their online learning readiness |
| 1/18/2021 to 4/26/2021 | * Implement the identified improvements and deliver all improvements according to the action plan
* Present the teaching experience in the college Faculty Development Committee’s teaching workshop to share the lessons learned and obtain feedback
 |
| 4/26/2021 | Create CIS 4850 course promotion materials for the fall 2021 class and launch the campaign to potential students |
| 5/1/2021 to 8/20/2021 | Use the summer 2021 to unveil the CIS 4985 promotion campaign and engage students interested the course through social media |
| 5/28/2021 | * Complete learning data collection through surveys, iCollege, and *Realizeit*
* Complete the analysis of the learning data to identify areas for improvements, priorities, and an action plan for implementing the improvements
* Complete the analysis, identify improvements, and define the action plan
 |
| 7/30/2021 | * Complete all identified improvements
* Complete all course contents update and new
* Complete update of course syllabus and assignments
 |
| 8/20/2021 | * Complete iCollege site set up and testing
* Complete *Realizeit* learning set up and testing
 |
| 8/27/2021 | Conduct class surveys on student learning habits to assess their online learning readiness |
| 10/29/2021 | * Complete research and analysis of alternative host platforms
* Complete testing of alternative hosting platforms
 |
| 11/2/2021 | * Make decision on the host platforms for spring 2022
 |
| 12/24/2021 | * Complete the transition and prepare for spring 2022 if an alternative host platform is decided
* Otherwise, complete update of course materials on the current hosting platform
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# Budget

The table below lists the budget:

|  |  |  |
| --- | --- | --- |
| Team Member | Role | Budget |
| Dr. Shuguang Hong | Developer and instructor for CIS 4850 | $2000 for professional development (training, etc.) |
| Ms. Karah Hagins | Learning Experience designer | $2000 for course design including compensation supplement |
| *Realizeit*, an adaptive learning platform (<https://realizeitlearning.com/>) | Hosts and delivers course materials, provides adaptive learning experience to students, and consulting and service support | $6000 for license fee ($30/student) and support through fall 2021 (extending to spring 2022 if possible), course promotion campaign cost (e.g., promotion flyers) |

# 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](https://www.affordablelearninggeorgia.org/about/rfp_r18).

# 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.*

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| --- |
| Dr. Bala RameshDistinguished University Professor, Board of Advisors Professor and Chair of the Department of Computer Information Systems |

# 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.*

|  |
| --- |
| Joseph McLeod, Managing Institutional Officer, Office of Sponsored Proposals and Awards, GSU |