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

*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.*

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| --- | --- |
| Requested information | Answer |
| Institution | Kennesaw State University |
| Applicant name | Chi Zhang |
| Applicant email | chizhang@kennesaw.edu |
| Applicant position/title | Associate Professor of IT |
| Submitter name | Chi Zhang |
| Submitter email | chizhang@kennesaw.edu |
| Submitter position/title | Associate Professor of IT |

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.

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| --- | --- | --- |
| Team member | Name | Email address |
| Team member 1 | Chi Zhang | [chizhang@kenneaw.edu](mailto:chizhang@kenneaw.edu) |
| Team member 2 | Becky Rutherfoord | [brutherf@kennesaw.edu](mailto:brutherf@kennesaw.edu) |
| Team member 3 | Susan Vande Ven | [svandev@kennesaw.edu](mailto:svandev@kennesaw.edu) |
| Team member 4 | Jack Zheng | [gzheng@kennesaw.edu](mailto:gzheng@kennesaw.edu) |
| Team member 5 | Rhonda Hill | [rhill23@kennesaw.edu](mailto:rhill23@kennesaw.edu) |

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 | * Revision of the open and free access materials currently being used in courses * Addition of the open and free access materials on new and emerging topics for the courses |
| Requested Amount of Funding  *$10,000 maximum total award per grant* | *$10,000* |
| Course Titles and Course Numbers | IT 6103 IT Policy & Law (graduate)  IT 4713 Business Intelligence Systems  IT 4723 IT Policy & Law (undergraduate)  IT 3223 Software Acquisition & Project Management |
| Final Semester of Project | Fall 2021 |
| Currently Existing Resource(s) to be Revised/Ancillaries Created  *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.* | |  |  |  | | --- | --- | --- | | **Course Name** | **Developed on** | **Original Course Material** | | IT 6103 IT Policy & Law | R11-365 | <http://ksuweb.kennesaw.edu/%7Elli13/6103/IT6103.html> | | IT 4713 Business Intelligence Systems | R02-334 | http://jackzheng.net/teaching/it6713/ | | IT 4723 IT Policy & Law | R11-354 | http://ksuweb.kennesaw.edu/%7Elli13/ALG364/IT4723/IT4723.htm | | IT 3223 Software Acquisition & Project Management | R11-354 | http://facultyweb.kennesaw.edu/svandev/index.php | |

# Project Goals

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

The goal of this project is twofold. One, produce savings to our IT students with no-cost material, and two, keep the course material up to date in the ever-changing IT field.

In this proposal, we propose to revise and improve the current material in four IT courses – IT 6103, IT 4713, IT 4723 and IT 3223:

1. Update the course materials with up-to-date development and emerging trends in IT
2. Develop new assignments, labs, and test questions based on the new material
3. Ensure the course material to comply to the accessibility standards

# 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.*

Our project team has four faculty developers and one instructional designer, with Dr. Chi Zhang, one of the faculty developers, as the team lead to coordinate the effort. The detailed project plan is listed as follows.

1. *Project Coordination*. Dr. Chi Zhang, who has led and participated in a few ALG grants, will coordinate the tasks for this project in addition to the material development for IT 4723. The tasks will include:
   * meet and make the project plan with faculty developers’ input (2 hours)
   * monitor project progress (ongoing, for a total of about 5 hours)
   * coordinate with the university grant office on the budget and expenses (2 hours, usually at the end of each semester during the funding period, or when the faculty developers need assistance using the fund)
   * facilitate faculty developers, instructional designer, and students when needed, set up online survey and collect student feedback on the updated course material (ongoing and may vary, ~6 hours)
   * collect information and work on the semester status report and final report (5 hours)

Dr. Zhang, as the project lead, is estimated to work about 20 hours.

1. The tasks for the four faculty developers Dr. Becky Rutherfoord, Dr. Jack Zheng, Professor Susan Vende Van, and Dr. Chi Zhang are:
   * research, collect, and review new information for the new teaching material (10 hours)
   * create new labs, assignments, and assessments (60 hours)
   * prepare the information for the status and final report (10 hours).

Each faculty developer is estimated to spend about 80 hours on this project.

1. *Accessibility Compliance*. Ms. Rhonda Hill, an Instructional Designer at Kennesaw State University will take a lead to ensure the new material to comply to the accessibility standards defined by ALG. All the four faculty developers have completed an Americans with Disabilities Act (ADA) compliance training at the KSU Digital Learning Innovation center. Ms. Hill, the Instructional Designer, will help with:

* Research the ALG accessibility requirements (2 hours)
* Accessibility update for the faculty developers before the start of the project (4 hours);
* Work with faculty developers on accessibility related issues during the project (24 hours).

The Digital Learning Innovations center of KSU provide manual captioning service for video lectures. All faculty developers are advised to consider available captioning service when recording their lectures. This will significantly reduce the time faculty or Ms. Hill spends on accessibility compliance. Ms. Hill is estimated work 30 hours on this project.

1. *Student Assessment*. We will first review the past student feedback and suggestions on the course materials from the past course assessments and invite students who have taken the courses as well as recent alumni for their input on the course material. As we develop new materials, we plan to try out a module or two in the next offering of the course for their feedback.
2. *Publishing the new course material*. All the new material will be hosted on respective faculty’s University website with a Creative Commons Attribution license. A course package that can be imported into Desire to Learning course management system will be available for downloading.

1. Action Plan for 6103 IT Policy & Law (graduate version) and 4723 (undergraduate version) - Faculty developer – Dr. Becky Rutherfoord, and Dr. Chi Zhang, estimated combined time working on this course: 80 hours. The major differences between the undergraduate and graduate versions include have difference depth of the material, different focuses – research and management perspectives, along with case studies, will be provided for the graduate course, while understanding and applications will be the focus for the undergraduate course. The detailed plan are as follows:

1. Overview: There are currently 14 modules in the course. The same number of modules will be kept - but the following updates will be done:

In Module 1 - Cyber Ethics, 2 new links will be added: <https://www.cisecurity.org/daily-tip/know-the-rules-of-cyber-ethics/> and <https://medium.com/@idigitizelinks/basic-cyber-ethics-to-adhere-to-832dd9bac690>.

* The power points will be updated, and voice will be added to the set of power points.
* Module 2 will update the power points and add voice to them.
* Module 3 on Critical Reasoning will add voice to the power points and add an exercise where the students as a group will fine three new links to support this module. Students will vote on the preferred links to include.
* Module 4 Privacy and the Law will update the power point slides and add voice. Students will have an exercise to find 2 scenarios to include in this module.
* Module 5 Security and the Law will update the power point slides and add voice.
* Module 6 Cyber Crimes will update the power point with voice and add additional content. Students will find 3 new links about current IT laws that have been broken.
* Module 7 Cybercrimes continued will update the power points and add voice.
* Module 8 Trademarks, Copyright, Patents, DMCA will update the content and the slides with voice. Students will find 2 new copyright lawsuits about an IT company to post on the module.
* Module 9 Jurisprudence (the Law and IT) will update power point with voice and add new links on new IT laws that have been passed in the last 5 years.
* Module 10 Tort, Product liability, negligence, etc., will update power point slide with voice, and have students find 3 new lawsuits - 1 on product liability in IT, and 2 on negligence.
* Module 11 Contracts will update power point slides with voice, and have students find 2 new contract law updates for IT for the module.
* Module 12 e-contracts will update power point slides with voice, and have students find 2 new e-contract lawsuits in IT to add to the module.
* Module 13 Regulations in cyber space will update the power point slides and add voice. Also add 3 additional new links on new regulations for cyberspace over the last 5 years.
* Module 14 Digital Divide, cyber bulling, web access will update slides (to include more on social media and the law) and add voice. Students will find 2 links on cyber bulling and will find 2 social media articles with problems security and privacy to add to the module.

Student involvement is in the spreadsheet where I’ve added several module exercises where students will find new links and vote on which should be included in the modules.

1. Timeline is also in the spreadsheet
2. Academic research:

* Rules of Cyber Ethics:  <https://www.cisecurity.org/daily-tip/know-the-rules-of-cyber-ethics/>
* Why Teach Cyber Ethics:  <http://etec.ctlt.ubc.ca/510wiki/Cyberethics>
* Cyber Ethics & Students:  <https://www.educationworld.com/a_tech/tech/tech055.shtml>
* Why is Cyber Ethics important to know:  <https://theknowledgereview.com/cyber-ethics/>
* Internet Law:  <https://revisionlegal.com/internet-law/internet-law-everything-you-need-to-know/>
* Laws of Cyberspace:  <https://cyber.harvard.edu/works/lessig/laws_cyberspace.pdf>
* Digital Divide:  <https://en.wikipedia.org/wiki/Digital_divide>
* Cyber bullying:  <https://www.stopbullying.gov/cyberbullying/what-is-it>

1. We will ask USG to host the learning material
2. Timeline:

The plan for the continuous improvement of IT6103 will take a gradual approach in three phases:

(1) Spring 2021 - During this phase, the developer will focus on converting existing learning materials to HTML format for better compliance with ADA, also updating the power point slide with voice. Add new links to the modules based on what students find during the course requirements. IT 6103 will be taught spring, and will use the students in the class to add material listed before. This should take approximately 60 hours.

(2) Summer 2021 - During this phase, the developer will concentrate on completing adding all new links that were found during the teaching in spring 2021, updating content based on new links and making sure all component are ADA compliant. The course will be completed by the end of summer term. This should take approximately 25 hours of work.

(3) Fall 2021 - The newly updated/developed IT6203 will be offered. Small adjustments or changes will be made based on student feedback as the course is being offered. The survey for the course will be given at the end of fall term. Analysis of the course from the survey and faculty comments will be compiled for the Faculty Course Assessment Report.

6. The plan for dissemination will include write two papers – one for SIGITE (Special Interest Group Information Technology Education), and the Open Source conference.

Additionally, spring 2021 the course will be taught.  During teaching, students will be gathering the new links for the modules listed in the spreadsheet.  In addition, the developer will be updating the power point slides and adding voice to the slides.  Additional links (ADA compliant), outside of the student ones, will be added and out-of-date links will be dropped from the modules.  Summer 2021, final updates for the IT 6103.  Make ADA compliance any final issues in the course, work with student and instructional developed to get their feedback and incorporate all suggested improvements.  Fall 2021 – teach course with newly updated material, give student survey at the end of the course.  Analyze the student survey results, and share these results with the project lead to include in the final report due at the end of fall 2021.

1. *Action Plan for IT 3223 – Software Acquisition and Project Management*

Comparing to the original developed material, list the changes to be made. Provide a preliminary review for the existing resources to meet new content of the course.

* Improve alignment of the module content to course outcomes, particularly with respect to SDLC. Add more SDLC content research to improve their understanding of SDLC processes so they can compare to acquisition of software. Increase comparison and evaluation of SDLC models, particularly with regard to newer models.
* Add more buy vs build content, particularly with regard to software acquisition. Students often assume that they are expected to prepare a plan to develop the product instead of investigating COTS options.
* Clarify to the students that the class modules walk them through the process to manage a project to purchase and implement a solution, not develop software.
* Break out the vendors and scheduling module into separate modules for vendor/software evaluation and project scheduling. This will provide better understanding for the students on each of those subjects and better align the assignments regarding expectations and timing.
* Add research on project management processes, with emphasis on newer methodologies
* Update reading links and PowerPoints with updated material.
* Improve ADA compliance of course materials.
* Post material to faculty web page.

Provide a detailed plan to adapt and create what would need to be created, linking that plan with the timeline and the budget in a way that shows the project has been well-thought-out and is realistic for the time and budget allowed

* Week 1 & 2: Research updated reading materials for SDLC, software acquisition and project management methodologies.
* Week 3, 4: Breakout and reorganize vendor and project scheduling material into separate modules. Add new content to module introductions; add new reading materials.
* Week 5, 6: Add new content to PowerPoints.
* Week 7: Update discussions to have students research the module topic.
* Week 8: Update assignments to reflect understanding of new material.
* Week 9: Update exams to reflect understanding of new material.
* Week 10: Review accessibility and adjust materials for ADA compliance. Add notes to instructor manual regarding need to check reading links and add new research items.

Fall 2021 – implement initial delivery of course.

Course Outcomes:

1. Discuss the elements of the basic Software Development Life Cycle and implement an analysis and design of a project using current project management tools;

2. Compare and contrast the advantages and disadvantages of building vs buying a software system;

3. Identify the elements and challenges of requirements engineering and project management;

4. Identify the project phases and challenges of acquiring, integrating and implementing a software package;

5. Evaluate a Request for Proposal for a software package.

1. *Action Plan for IT 4713 – Business Intelligence Systems*

Faculty developer – Dr. Jack Zheng. Total estimated time: 40 hours

This course introduces the concepts, practices, technologies and systems of business intelligence and analytics, which supports data driven insights generation and decision making. The complete process of BI and analytics is covered, from data gathering, modeling, analysis, reporting, and visualization. Business intelligence systems have been widely adopted and implemented in today's enterprise environments due to growing amount of data and increasing need for data analytical processing. The IT 6733 course focuses more on general database administration but is limited on some parts of data modeling, integration, analysis, and visualization. This course is aimed to complement that by focusing analytical processing technologies and applications. The current course is hosted at <http://jackzheng.net/teaching/it6713/>

The updates of this course include the research and review questions will be presented in each module study guide. Students will conduct general search and research and submit any resources they value. The instructor will review and incorporate the free resource to the study guide in the future.

Estimate the time it takes to complete the tasks in the plan: About 2 hours per module. 10 hours for the one new module creation. 10 hours for other tasks including website setup, report, project revision. Total about 40 hours. This a continuous improvement proposal, all materials have been proven viable and available. Dr. Zheng is the course coordinator of the course and will review the course at least once a year and will create a dedicated course website for the proposed course, using KSU computing resources.

The timeline: Spring 2021 – complete update of the course materials.

Fall 2021 – implement the updated course materials. Conclusion of project.

1. Plan for maintenance:

A. The IT department collects an FCAR – Faculty Course Assessment Report at the end of each course taught throughout the year.  This report gives statistics for the achievement of course outcomes, and also gives the faculty member space to analyze the results of outcomes achievement and suggest possible improvements for the course for the next time it is taught.

This FCAR is used for continuous improvement and is part of the Information Technology Department’s Continuous Improvement Plan.  The FCARs are also used as documentation for our self-study for ABET accreditation for our BSIT program.  The MSIT program does not have ABET accreditation.

B.  Each course is assigned a course coordinator who creates a “template shell” of the complete course.  Each faculty who teaches the course copies this template into their current term course.  This is done to keep the consistence of each course.  The course coordinator is also the one who presents any improvements that should be made to the course at the annual assessment meeting.

C.  The annual assessment meeting of the department takes place in the spring term, and each year new or updated courses, as well as 1/3 of the total number of courses in the degree are assessed for any improvements that need to be made.  The FCARs are used to evaluate the success of meeting course and program outcomes.  Each course has a faculty course coordinator that collects the information from the FCARs of the course from previous terms and makes suggestions for improvements to be made.  Faculty in the department vote on these recommended changes, and all changes are implemented the next fall term.  This ensures that each course is completely evaluated at a minimum of every 3 years in the improvement cycle.  New or re-developed courses are done at the first annual assessment meeting after they were taught the first time, and again during the 3rd year.  This is part of department Continuous Improvement Plan.

# 5. Budget

The budget of this proposal is listed as follows.

* Dr. Chi Zhang, project lead, developer and instructor of record for IT 4723, $2500 for summer salary.
* Dr. Becky Rutherfoord, developer or IT 6103, $2000 for summer salary.
* Dr. Jack Zheng, developer and instructor of record for IT 4713, $2000 for summer salary.
* Professor Susan Vande Ven, developer and instructor of record for IT 3223, $2000 for summer salary.
* Rhonda Hill, instructional designer, $1200 for summer salary.
* Student reviewer, $300 for compensation

**Total budget: $10,000**

# 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. Rebecca Rutherfoord, Professor of IT, Chair of Department of Information Technology* |

# 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.*

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| --- |
| Kim Hunt, Grants and Contract Manager Office of Research, Kennesaw State University |