**Affordable Learning Georgia Affordable Materials Grants  
Continuous Improvement Grants Final Report**

*(or Mini-Grants, for R17 and earlier)*

# General Information

Date: December 20, 2021.

Grant Round:18

Grant Number: M136

Institution Name(s): Kennesaw State University

Team Members (Name, Title, Department, Institutions if different, and email address for each):

|  |  |  |
| --- | --- | --- |
| Team member | Name | Email address |
| **Team member 1** | Lei Li | [lli@kennesaw.edu](mailto:lli@kennesaw.edu) |
| **Team member 2** | Linh Le | [lle13@kennesaw.edu](mailto:lle13@kennesaw.edu) |
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Project Lead: Lei Li

Course Name(s) and Course Numbers:

IT 4153 Advanced Database

IT 4833 Wireless Security

IT 6203 IT Design Studio

IT 6823 Information Security Concepts & Admin

Final Semester of Project: Fall 2021

***If applicable to your project:***

Average Number of Students Per Course Section:

Number of Course Sections Affected by Implementation of Revised Resources:

Total Number of Students Affected by Implementation of Revised Resources:

# Project Narrative

*Describe the course of your revision or ancillary creation project, including*

* *A summary of your project’s purpose, plan, and timeline.*
* *The original works which were revised or added to, with links. For example, if you revised an open textbook, give the title, author, and link.*
* *A narrative description of how the project’s plan was carried out.*
* *Lessons learned, including anything you would do differently next time.*

As part of our department ALG strategic plan, we propose to revise the OER material used in 4 IT courses in the project: IT 4153, IT 4833, IT 6203, and IT 6823. IT 4153 was developed in ALG round #2 and the other three courses were developed in round #10. While our faculty have been making incremental changes to those courses over the years, it is time for a systematic overhaul. The overall goals of the project are listed as follows. The specific plan about each individual course is illustrated in the action plan section.

* Review the existing OER materials for correctness and accessibility issues;
* Revise outdated OER materials with updated material;
* Develop new OER materials based on the changes in course learning outcomes;
* Update existing or develop new ancillary material such as assignments, lab material, and test banks;
* Use a department provided layout template to make sure OER material in each course has similar look and feel;
* Ensure all course material comply with the specific accessibility standards defined by ALG;
* Create a course package that can be imported into D2L Brightspace, the course management system used by the University System of Georgia.

The course development was completed on summer 20221 and course implementation was done in fall 2021. Based on the student survey of the no-cost-learning-material, the students indicated very positive perception of the developed OER material for all four courses in the project. Our project is a success. Below are summary of student survey.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Statement** | **IT 4153** | **IT 4833** | **IT 6203** | **IT 6823** |
| In general, the learning modules were organized | 4.00 | 3.83 | 4.27 | 4.30 |
| The content, links and other leaning module materials were sufficient to help me learn. | 4.20 | 3.83 | 4.18 | 4.40 |
| I liked not having to buy a textbook and instead used the materials that were provided and free. | 4.20 | 4.83 | 4.18 | 4.50 |
| I prefer using selected open source/free learning materials rather than a paid textbook for this course. | 4.60 | 4.67 | 4.09 | 4.50 |
| Overall, compared to a potential paid textbook, open resource learning materials provided the necessary assistance to learn the material. | 4.20 | 4.33 | 4.00 | 4.40 |
| I would take another course that uses open/free learning materials. | 4.20 | 4.67 | 4.36 | 4.30 |
| I would have preferred having a textbook for the course | 1.80 | 1.50 | 2.55 | 2.40 |

**Note:** 1) the numbers in the table represent survey participants’ opinion on the statements: 5 - Strongly agree, 4-Agree,3-Niether agree nor disagree, 2- Disagree, 1-Strongly disagree

Selected student comments:

“*The material has been adequate for the class. I like OER because the material is up to date, unlike a textbook*”.

“*Although textbooks are expensive, I find myself wanting to use one rather than looking at material pieced together from different sources. As I think through the job market and overall development of IT, I think about how the experience of looking for information and looking at different material and how it would benefit my skills. I would much rather continue to use free open-sourced material*”.

“*There was no need for a textbook, there were sufficient open-source resources*”.

“*I learned most of the class without a textbook. I find textbooks boring and mentally draining to read, so classes without them are easier for me to learn in*”.

# Materials Description

*Describe all the materials you have created or revised as part of this project. These descriptions may be used in the* [OpenALG](https://alg.manifoldapp.org/) *repository description field. Include the* [*open license your materials will be shared under*](https://creativecommons.org/share-your-work/)*—for most materials, this will be an Attribution 4.0 License (CC BY) as required in the Grants Request for Proposals.*

IT 6203- Dr. Zhigang Li made following improvement to the course. 1) all instructions related to MEAN stack development have been updated and rewritten using the latest version of MEAN stack components, 2) the overall course structure has been reorganized to accommodate new topics for DevOps, Agile development, and Testing, 3) all the learning materials are re-developed in HTML5 format for better integration with D2L, better accessibility compliance, better readability, better integration with multimedia, and better learner experience, and 4) video lecture/tutorials are developed with closed-captioning and are integrated with the learning materials. All the work are licensed under a Creative Commons Attribution 4.0 International License. The OER material uses Attribution 4.0 License (CC BY).

IT 4153 – Dr. Linh Le. This course provides students with knowledge on how databases are used with programming applications. Topics include advanced PL/SQL (or similar database programming language), database transaction, database security, database maintenance, and distributed and web databases. Revisions were done mostly on keeping the learning materials up to date. More specifically, all previous learning materials were developed under Oracle 12c which have been updated to Oracle 18c in this revision. Furthermore, additional learning materials have been added, including presentation slides and sample scripts (SQL and MongoDB). Finally, all external materials are verified and replaced if needed. The OER material uses Attribution 4.0 License (CC BY).

IT 4833 – Dr. Lei Li. This course covers methods and techniques to secure wireless networks against threats and attacks. The ALG material of this course is improved in following ways: 1) Add a new module on mobile device security; 2) Updated the content of existing modules. All slides, learning material, and study guides are APA compliant; 3) Added test banks for the several learning modules; 4) updated the instructions of assignments and team project. The OER material uses Attribution 4.0 License (CC BY).

IT 6823 – Dr. Lei Li. This course provides an overview of the principles, methodologies, and best practices in securing an enterprise IT infrastructure. The ALG material of this course is improved in following ways: 1) a major revision of the course learning outcomes and contents. About 50% of the course contents are re-developed comparing to last ALG version; 2) All slides, learning material, and study guides are APA compliant; 3) test banks are re-developed for new modules; 4) updated the instructions of assignments and team project. The OER material uses Attribution 4.0 License (CC BY).

# Materials Links

*If you are hosting your materials in places other than OpenALG, please provide these links in this section. Otherwise, leave blank. Note: we cannot access D2L or Canvas links.*

|  |  |
| --- | --- |
| IT 4153 | <https://facultyweb.kennesaw.edu/lle13/IT4153%20Learning%20Materials.zip> |
| IT 4833 | <https://facultyweb.kennesaw.edu/lli13/alg/4833/IT4833.php> |
| IT 6203 | <https://facultyweb.kennesaw.edu/zli8/it6203.php> |
| IT 6823 | <https://facultyweb.kennesaw.edu/lli13/alg/6823/6823.php> |

# Future Plans

* *Describe any planned or actual papers, presentations, publications, or other professional activities that you expect to produce that reflect your work on this project.*
* *Describe any plans to revise or add to these materials in the future.*

We aren’t planning to publish any papers on this grant. We will keep regular maintenance of the OER material based on the IT department courses assessment plan.