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

# General Information

Date: 5/14/2025

Grant Round: R25

Grant Number: **M287**

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 | Shirley Tian | xtian2@kennesaw.edu |
| Team member 2 | Ming Yang | myang8@kennesaw.edu |
| Team member 3 | Maria Valero | mvalero2@kennesaw.edu |
| Team member 4 | Linh Le | lle13@kennesaw.edu |
| Team member 5 | Chi Zhang | czhang4@kennesaw.edu |

Project Lead: Shirley Tian

Course Name(s) and Course Numbers:

IT 6823 Information Security Concepts & Administration
 IT 7143 Cloud Analytics Technology
 IT 7323 Computer Forensics
 IT 6413 IT Service Delivery

Final Semester of Project: 2025 Spring

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

Average Number of Students Per Course Section: 25

Number of Course Sections Affected by Implementation of Revised Resources: 9

Total Number of Students Affected by Implementation of Revised Resources: 178

# Project Narrative

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

* *A summary of your project’s purpose, plan, and timeline.*

The Department of Information Technology at Kennesaw State University (KSU) has made department-wide efforts to adopt open educational resources (OER) in both undergraduate and graduate courses and housing both Z-Degrees since 2020. Thanks to strong support from Affordable Learning Georgia (ALG), all the courses from the MSIT program have now replaced their textbooks with no-cost-to-student OER learning materials. Information technology is an ever-changing field; it is very important to keep our courses updated. The degree program periodically undergoes curriculum revision every three years. Out of this, we are planning to update four courses. Most of them were updated more than two years ago and needed to be aligned with current industry best practices and trends as follows:

IT 5413 Software Design and Development
IT 6423 IT System Acq & Integration
IT 7333 Enterprise Cloud and Wireless Security
IT 7133 Enterprise AI Applications

As part of our department ALG strategic plan, we propose to create OER materials for these four courses to keep up the MSIT Z-Degree. Our assigned faculty to develop these courses have already identified the preliminary sources based on the learning objectives for developing OER materials. We are striving to make OER resources accessible to all students, as a result, further effort is needed to make developed slides, lectures, test questions compliant with accessibility criteria enforced by Digital Learning Innovation at KSU. The overall goals of our project are listed as follows. The specific plan about each individual course is illustrated in the action plan section.

* Develop new OER materials for courses to be part of MSIT Z Degree
* Ensure all developed OER materials are free from any accessibility issues.
* Develop new OER materials based on course learning outcomes.
* Develop new ancillary material such as assignments and lab material.
* Use a department provided layout template to make sure OER material in each course has similar look and feel.
* Ensure all course materials including lectures, slides, resources 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.

*Timeline:*

* + *04/15/2024.* Complete accessibility training and review of existing OER material
	+ *11/15/2024*. Complete the development of the lectures
	+ *1/15/2025*. Complete the development of the course projects and all OER ancillary materials, such as quizzes, discussions, assignments.
	+ *1/31/2025*. Ensure that all OER materials are accessibility compliant.
	+ *04/15/2025.* Complete student review of the OER material; develop an online survey instrument for collecting students’ feedback after courses are taught using updated OER material; and develop the project progress report.
	+ *4/30/2025*. Complete course offerings with updated OER material; complete the course survey on updated OER material; and compile and submit the final project report.

# 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.*

1. *Action Plan for* IT 6823 Information Security Concepts & Administration
Faculty developer – Dr. Ming Yang. Estimated time working on this course: 50 hours.

Change “Research Paper” assignments from a group project to an individual project. The reason is because lots of students prefer to work individually, according to my past experience. So I decided to make the change, such that all students have the opportunity to go through the whole process of literature review, research paper writing, and PPT slides creation.

Based on the changes on “Research Paper” project, the corresponding grading rubrics will also be updated to reflect the changes on the project. Also, grading rubrics for all three assignments will be updated. The new rubrics will be consistent with the updated instructions and requirements for the assignments. This will significantly enhance the student learning experience and ensure the matching between assignments and student learning outcomes.

1. *Action Plan for* IT 7143 Cloud Analytics Technology
Faculty developer – Dr. Linh Le. Estimated time working on this course: 50 hours.

This course introduces the data analytics practices and technologies that are executed in a cloud environment for IT enterprise operations. The course explores key areas of the cloud analytical process, including data preparation, storage, access, analysis, presentation, and practical configurations and settings. Under the umbrella of cloud analytics, emerging analytics topics will be discussed. The course also covers hands-on training on modern cloud systems that directly support the complete analytics process. The course currently offers training in cloud systems including Amazon Web Services (AWS) and Microsoft Azure. The course will be updated to include more recent analytical pipelines including language modeling, visual modeling, and multimodal modeling. Current materials will also be updated to incorporate changes in the utilized cloud platforms. Finally, due to changes in free-tier policies, Microsoft Azure will be transitioned out of the course and will be replaced with Google Colaboratory. At the moment, Google Colaboratory is a very useful cloud platform for data analytics due to its functional ecosystem, ease of connections to cloud open-resources, and friendlier free-tier usages.

The details of the updates are as follows:

* New contents on Google Colaboratory:
* Introduction – one module
* Managing data storage – one module
* Predictive analysis – three modules
* Language models with HuggingFace – one module
* Visual models with HuggingFace – one module
* New contents on AWS:
* Manage AWS S3 storage – one module
* Foundational models with AWS SageMaker JumpStart – one module
* Auto Model with AWS SageMaker AutoPilot – one module
* To be updated on AWS:
* Introduction – one module
* Predictive analysis – one module
* Forecasting – one module
* Anomaly detection - one module
* All assignments, quizzes, and projects will be updated to accommodate the new learning materials.
1. *Action Plan for* IT 7323 Computer Forensics
Faculty developer – Dr. Maria Valero. Estimated time working on this course: 50 hours.

The Computer Forensics course will undergo updates to enhance student learning outcomes and accessibility while ensuring affordability. We plan to integrate interactive learning modules to provide alternatives to traditional slides and study guides. The main updates are listed. 1) We will add the use of a personalized instructor discussion of topics using AI for three main modules. Introduction to Computer Forensics, Introduction to Partitions, and File Carving and Steganography are the three modules. The modules will now use AI technology to provide “WatchMeFirst” videos to guide the students in the module and respond to common questions. We will use technology like [Speechify](https://speechify.com/) or [deepbrain.io](http://deepbrain.io/) to create those videos. Please see an [Example](https://youtu.be/JpTTYjL9doE) here. 2) We will update several labs to introduce more interactive new activities. We will update the lab in modules 2, 8, and 10 to add more critical thinking questions. 3) We also will update the reading of research papers to be more up-to-date as research evolves continuously. For example, [Reading #2](https://iotas.kennesaw.edu/?page_id=1510#:~:text=Reading%20%231-,Reading%20%232,-NTFS%20Manual) in Module 2 is a paper published in 2009; hence, new research has appeared, and the readings need to be updated. 4) We will also integrate open-access journals and case studies into the course materials to expose students to real-world applications of computer forensics. Websites like Directory of [Open Access Journals](https://doaj.org/) and [PubMed Central](https://www.ncbi.nlm.nih.gov/pmc/) offer a wide range of scholarly articles in the field of computer forensics. For cases, we will use case study repositories such as the [Digital Forensics Case Repository.](https://www.digital-evidence.org/cases/) These improvements are expected to elevate the course to new heights, better preparing students for success in their academic pursuits and future careers in the field of computer forensics. We are confident these enhancements will positively impact student learning outcomes, engagement, and overall satisfaction with the course, ultimately contributing to their long-term success and growth as professionals in the field.

1. *Action Plan for IT* 6413 IT Service Delivery
Faculty developer – Dr. Chi Zhang. Estimated time working on this course: 50 hours.

As ChatGPT emerged in 2023, it disrupted the traditional IT service in terms of IT strategy and process automation. This emerging technology helps IT services improve efficiency and reduce operation time and cost. We are considering adding new content around ChatGPT to inform our IT students of the new technology and applications. IT service management (ITSM) is about delivering and supporting IT services (such as IT help desk). AI and automation can help routine IT service delivery and IT service management. We plan to investigate the current and emerging information on how to use AI to help resolve IT issues and optimize IT service delivery process and performance. We are considering introducing OpenAI API to the students. The content to be added will be around operations chatbot, personalized support, and automate repetitive tasks. The topics to be added will focus on ChatGPT in IT service desks and how it can help routine tasks using its natural language processing skills. The proposed topics that are being considered include: 1) The role of AI in IT service management, 2) AI capabilities and overview of AI ITSM Tools, 3) Service desk automation with AI integration, 4) How AI helps in incident categorization, service ticket routing, and knowledge base, 5) AI-enabled predictive maintenance and proactive change management, and 6) The future of AI in IT management.

* *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.*

# 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 6823 Information Security Concepts & Administration
 IT 7143 Cloud Analytics Technology
 IT 7323 Computer Forensics
 IT 6413 IT Service Delivery

[*https://www.dropbox.com/scl/fi/e6zbpn4s4bkd4is15wqhq/OneDrive\_2025-05-14.zip?rlkey=mph1nywf1hmj7dktef24rje2w&dl=0*](https://www.dropbox.com/scl/fi/e6zbpn4s4bkd4is15wqhq/OneDrive_2025-05-14.zip?rlkey=mph1nywf1hmj7dktef24rje2w&dl=0)

# 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.*

This project will be used to conduct further research on the ALG Round research project.

We plan to revise and revisit the course materials after 2-3 years.