Application Details

Manage Application: ALG Textbook Transformation Grants Round Five

Award Cycle:	Round 5
Internal Submission Deadline:	Tuesday, December 15, 2015

Application Title:	229
Submitter First Name:	Chi
Submitter Last Name:	Zhang
Submitter Title:	Assistant Professor of Information Technology
Submitter Email Address:	chizhang@kennesaw.edu
Submitter Phone Number:	470-578-3796
Submitter Campus Role:	Proposal Investigator (Primary or additional)
Applicant First Name:	Chi
Applicant Last Name:	Zhang
Co-Applicant Name(s):	Bob Brown
Applicant Email Address:	chizhang@kennesaw.edu
Applicant Phone Number:	470-578-3796
Primary Appointment Title:	Assistant Professor of Information Technology
Institution Name(s):	Kennesaw State University

Team Members (Name, Title, Department, Institutions if different, and email address for each. Include the applicant in this list.):

1. Project Lead and Faculty Subject Matter Expert: Dr. Chi Zhang, Assistant Professor of Information Technology, Department of Information Technology, chizhang@kennesaw.edu
2. Project Investigator and Faculty Subject Matter Expert: Dr. Bob Brown, Senior Lecturer of Information Technology, Department of Information Technology, bob.brown@kennesaw.edu

Sponsor, (Name, Title, Department, Institution):

Dr. Svetlana Peltsverger, Associate Professor and Chair, Department of Information Technology, Kennesaw State University

Proposal Title:	229

Course Names, Course Numbers, and Semesters Offered:

1. IT 3503 (undergraduate level) Foundations of Health Information Technology (two sections offered in each of the Fall and Summer terms since 2011)
2. IT 6503 (graduate level) Foundations of Health Information Technology (two sections offered in each of the Fall and Summer terms since 2011)

Final Semester of Instruction (This is your final semester of the project):	Spring 2017
Average Number of Students per Course Section:	20
Number of Course Sections Affected by Implementation in Academic Year:	8
Total Number of Students Affected by Implementation in Academic Year:	160
List the original course materials for students (including title, whether optional or required, & cost for each item):	Both of the following are required: 1. Textbook: Health Information Technology and Management by Richard Gartee, 2011, Prentice Hall, ISBN-13: 9780131592674. $139.60. http://www.pearsonhighered.com/educator/product/Health-Information-Technology-and-Management/9780131592674.page 2. MyHealthProfessionsKit -- Standalone Access Card to Companion Publisher's course materials site, 2011, Prentice Hall, ISBN-13: 9780135079560. $10.00. http://www.pearsonhighered.com/educator/product/MyHealthProfessionsKit-Standalone-Access-Card/9780135079560.page
Proposal Categories:	No-Cost-to-Students Learning Materials
Requested Amount of Funding:	$10,800

Original per Student Cost:	$149.60
Post-Proposal Projected Student Cost:	$0
Projected Per Student Savings:	$149.60
Plan for Hosting Materials:	D2L

Project Goals:

Foundations of Health Information Technology at the undergraduate level (IT 3503) introduces students to the field of health information technology (HIT). Students become familiar with the content, use, and structure of the health care data and medical records, health information management, health information security and privacy, fundamentals of health information systems, health care delivery systems in the U.S., and HIT resources.

The course at the graduate level (IT 6503) provides an overview of information technology and information systems in healthcare industry. It introduces the HIT initiatives, legislation, policies, and regulations as well as HIT in different healthcare settings. The course discusses electronic health records systems, healthcare data standards and health data analytics, healthcare payment and reimbursement systems, health information security and privacy, the HIT applications, and the emerging trends and research in HIT.

The undergraduate level course prepares students to understand the various aspects of HIT and, in particular, how HIT is being used in the real world. The graduate level course discusses the topics in more depth and involves graduate students in research and investigation of the current and future directions of HIT.

Our primary goal for this project is to transform the two courses into content-rich classes that not only capture quickly advancing information technology in healthcare but also provide up-to-date information and research findings for the HIT field. The developed course packages will meet the needs of teaching and learning of HIT for both on-campus and online courses. The learning materials will be sustainable and, equally importantly, will come at no cost to students.

Our specific goals are:

- to research and compile high quality teaching materials from open-access sources for the specified course outcomes.
- to develop comprehensive and sustainable course packages that can be updated and improved continuously with no cost for the learning materials.
- to develop two ready-to-use online course packages in D2L for the instructors of both IT 3503 and IT 6503.

Statement of Transformation:

The Transformation

Health Information Technology (HIT) professionals are in increasing demand as healthcare providers need help in the adoption and meaningful use of Electronic Health Record (EHR) systems while the HIT industry needs workforce skilled in HIT and EHR development. According to Bureau of Labor Statistics, the demand for personnel in medical records and health information technology for the 10-year timeframe between 2010 and 2020 will increase by 21%, while the average growth rate for all occupations is 14 percent (Bureau of Labor Statistics http://www.bls.gov/ooh/healthcare/medical-records-and-health-information-technicians.htm).

In light of this, the Department of Information Technology at the College of Computing and Software Engineering, Kennesaw State University, started designing and developing HIT curriculum in 2010.

Over the past few years, the federal and state legislation, regulations, and policies on healthcare and healthcare IT have been updated regularly, and technologies have advanced rapidly. Because of the nature of technological advancement, textbooks seem to always be one step behind.

The up-to-date information and hands-on experience is essential for the HIT students. The no-cost-to-students course packages to be developed for this project will be able to provide instructors and students with the latest teaching and learning materials for HIT and thus enhance learning outcomes and student learning experience.

The Stakeholders

Three primary stakeholders are identified:

- students in the HIT classes
- faculty who develop and teach the courses
- HIT industry, healthcare organizations, and healthcare and HIT agencies, who will hire our HIT students as interns or for permanent positions

This project will 1) benefit students, who will receive the most from the course with the up-to-date information and in-depth understanding of the emerging trends and technologies in HIT, helping them become better prepared for the HIT positions at no cost to them; 2) benefit instructors with the latest, comprehensive content and resources in HIT and ready-to-teach course packages in D2L; and 3) subsequently benefit the HIT companies, healthcare organizations, and federal and state healthcare and HIT agencies (for example, Georgia Department of Community Health), who are in need of HIT students.

The Transformation Impact

The transformation will impact:

- at course level:
  - two courses – IT 3503 and IT 6503 Foundations of HIT.
  - multiple courses: The up-to-date information compiled and developed for IT 3503 and IT 6503 will serve as the review materials for the subsequent HIT courses:
    - IT 4513 and 6513: Electronic Health Records Systems & Applications
    - IT 4523 and 6523: Clinical Workflow and Process: Analysis & Redesign
    - IT 4533 and 6533: Health Information Security & Privacy
- at program level:
  - the undergraduate and graduate HIT certificate programs for which IT 3503 and IT 6503 are required, respectively, Department of Information Technology, College of Computing and Software Engineering, Kennesaw State University.
  - the Minor in IT program, for which IT 3503 can be taken as an elective, Department of Information Technology, College of Computing and Software Engineering, Kennesaw State University.
  - the Bachelor of Science in Nursing program, for which IT 3503 can be taken as an elective, Wellstar School of Nursing, Kennesaw State University.
  - the Master of Science in Healthcare Management and Informatics (MSHMI) program at the Coles College of Business, Kennesaw State University. It has been agreed that students who have taken IT 6503 and are later enrolled in the MSHMI program can use IT 6503 as an equivalent to the course “Introduction to the Healthcare Management and Informatics”.

Transformation Action Plan:

Our overall plan is to develop two course packages (IT 3503 and IT 6503) that provide up-to-date content to adequately meet the course learning outcomes forno cost to students. The course content includes materials from leading HIT organizations, HIT agencies, healthcare research portals, and the databases available via GALILEO provided by the university library for information systems, information technology, and healthcare fields, as well as open access health education communities.

Our specific plans are as follows:

- to identify high quality materials that align with the learning outcomes of IT 3503 and IT 6503. The sources include but are not limited to:
  - ONC (The Office of National Coordinator for Health Information Technology)
  - HIMSS (Healthcare Information and Management Systems Society)
  - AHIMA (American Health Information Management Association)

    - AMIA (American Medical Informatics Association)
    - AHRQ (Agency for Healthcare Research and Quality) , National Resource Center for Health Information Technology
    - HIMSS Analytics (HIMSS Analytics regularly publishes Essentials Briefs on a variety of healthcare technology areas and market segments.)
    - CPHIMS (Certified Professional in Healthcare Information and Management Systems) includes certification examination modules – General (Healthcare & Technology Environments), Systems (Analysis; Design; Selection, Implementation, Support, & Maintenance; Testing & Evaluation; Privacy & Security), and Administration (Leadership & Management)
    - AHIMA certifications (RHIT, RHIA, etc.) for Health Information Management, Coding, Health Data Analysis, Healthcare Privacy and Security, and Clinical Documentation Improvement
    - Open source (no cost) electronic health records systems including cloud-based and locally-hosted systems
- to review the materials and choose the relevant information in high quality
- to organize the materials for each of the course outcomes
- to develop the courses in D2L with the organized materials and create lecture slides, assignments, test banks, and hands-on exercises, and incorporate the research component into the course development
- to disseminate the transformed course materials by using D2L to share the information developed for IT 3503 and IT 6503 to the other HIT courses listed above
- to assess teaching and learning effectiveness after the course package is in use

Both project investigators are also subject matter experts. Dr. Bob Brown has served as the CIO for a hospital and has extensive experience in Healthcare IT, and Dr. Chi Zhang has a track record of publishing HIT research and HIT curriculum design and development. They have both been teaching HIT courses since they were first offered at the Department of Information Technology. Both of them will work on the tasks specified in the action plan.

Quantitative & Qualitative Measures:

Quantitative Measures:
Student performance: Students' grades will be collected and analyzed.
Student standard course evaluation: Student responses to the standard course evaluation for the transformed courses will be compared with courses used in prior semesters.
Student feedback: A Likert-scale anonymous survey questionnaire for students' perceived learning effectiveness and learning experience will be conducted online. Survey questions will be composed of validated and published learning effectiveness and learning satisfaction survey instruments. Survey data will be collected and analyzed.
Qualitative Measures:
Student feedback: The survey questionnaire mentioned above will have open-ended questions allowing students to discuss their learning experiences and give their assessment of teaching materials.
Instructor feedback: The instructor survey will collect instructors' comments on their teaching experience and an assessment of the teaching materials.
Both the students' and instructors' answers will be collected and analyzed with identified themes.

Timeline:

05/15/2016 – Summer 2016 begins. preparation for implementing the transformation action plan
06/15/2016 – search and identification of materials that align with course outcomes
07/15/2016 –review of the identified materials, discussion and finalization of quantitative and qualitative course evaluation and survey questions, submission of Summer 2016 status report
08/15/2016 – Fall 2016 begins. finalization of compilation of teaching materials
09/15/2016 – importing and organization of teaching materials in D2L, conducting of quantitative and qualitative course evaluation and survey for the "old" course content as the baseline, submission of fall 2016 status report
10/15/2016 – implementation of the transformed course packages
12/15/2016 – completion of the transformed course packages, review of course packages and discussion of further modification of the course packages, preparation for the offering of the course, submission of Fall 2016 status report
01/15/2017 – Spring 2017 begins. the transformed courses offered for the first time
05/15/2017 – conclusion of transformed courses conducting of quantitative and qualitative course evaluation and survey for the transformed course
06/15/2017 – review of assessment data and submission of final report to ALG

Budget:

Part A: Personnel $10,000

- Dr. Chi Zhang, Project Lead and Faculty Subject Matter Expert: $5,000 for overload compensation in 2016-2017 academic year
- Dr. Bob Brown, Faculty Subject Matter Expert: $5,000 for overload compensation in 2016-2017 academic year

The overload compensation is for the time and effort spent on researching and collecting the course materials, redesigning and developing the transformed courses in D2L, and analyzing the assessment data, and disseminating and reporting the transformed courses.

Part B: Travel $800

ALG Project Training travel for two team members, Dr. Chi Zhang and Dr. Bob Brown.

Total Budget: $10,800

Sustainability Plan:

The sustainability plan for this project is as follows:

- The developed transformed courses in D2L will be the “baseline course packages” for all future courses of IT 3503 and IT 6503. They will provide a guiding foundation for the delivery of the courses, while allowing instructors with different experiences and academic backgrounds to use and adapt to the courses as needed. Both courses will be offered in the summer and fall semesters each year.
- The learning content for the transformed courses are from the leading national and state HIT organizations, agencies, open learning communities, and university library databases, all of which are sustainable resources. This ensures the learning materials will be able to be updated on a regular basis.
- The Department of IT assigns a course architect for all IT courses for continuous improvement as required by ABET accreditation. The course architect is responsible for course materials maintenance – coordination with the course instructor(s) and departmental curriculum committee to report the learning outcome and material updates and to facilitate improvement based on the course feedback from students, instructors, alumni, and industry advisory board.

This sustainability plan shows that the no-cost transformed courses and resources are highly

sustainable and will enhance teaching and learning effectiveness in HIT courses.

KENNESAW STATE UNIVERSITY

College of Computing and Software Engineering

Information Technology

December 15, 2015

Dear ALG Textbook Transformation Grants Review Committee:

I am writing this letter to support the project titled "Textbook Transformation for Health Information Technology Related Courses" submitted by Dr. Chi Zhang and Dr. Robert Brown from the Department of Information Technology at Kennesaw State University.
The project intends to transform the Foundations of Health Information Technology (HIT) courses at both undergraduate (IT 3503) and graduate (IT 6503) levels.
Due to the fast advancing subject of information technology in healthcare, the textbooks do not provide up-to-date information and research findings in the HIT field. Atlanta is often referred to as the nation's health IT capital and is at the forefront of consumer digital health. This project will help University System of Georgia to better prepare the students for their future careers in HIT.
The transformation to no-cost-to-students learning materials for the two courses will directly impact about 160 students in an academic year and potentially impact more students in other HIT-related courses offered by the Department of IT, as well as the students enrolled in IT minor, undergraduate and graduate certificates in HIT and other programs, including the nursing programs at Kennesaw State, who are interested in taking the HIT courses as electives.
The investigators in this project are also designated course architects who are responsible for the development and the maintenance of the to-be-transformed courses. The developed no-cost-to-students material will be distributed using the course management system Brightspace by Desire2Learn and publicly available IT Department website. Thus, I believe the effort of this project will be sustainable over the long term.

Considering all the above, I strongly support Dr. Zhang's and Dr. Robert Brown's project. If there is any further information I can supply, please do not hesitate to contact me at (470) 578-3813 or speltsve@kennesaw.edu.

Svetlana Peltsverger

Sincerely,
Svetlana Peltsverger, PhD, CISSP
Associate Professor, Interim Chair
Information Technology Department
College of Computing and Software Engineering
Kennesaw State University
1100 South Marietta Parkway Marietta, GA 30060

Affordable Learning Georgia Textbook Transformation Grants
Rounds Three, Four, and Five
For Implementations Beginning Summer Semester 2015
Running Through Spring Semester 2017

Proposal Form and Narrative

Submitter Name	Chi Zhang
Submitter Title	Assistant Professor of Information Technology
Submitter Email	chizhang@kennesaw.edu
Submitter Phone Number	470-578-3796
Submitter Campus Role	Proposal Investigator (Primary)
Applicant Name	Primary Investigators: Chi Zhang & Bob Brown
Applicant Email	chizhang@kennesaw.edu, bob.brown@kennesaw.edu
Applicant Phone Number	470-578-3796, 470-578-7505
Primary Appointment Title	Assistant Professor of Information Technology; Senior Lecturer of Information Technology
Institution Name(s)	Kennesaw State University
Team Members	1) Project Lead and Faculty Subject Matter Expert: Dr. Chi Zhang, Assistant Professor of Information Technology, Department of Information Technology 2) Project Investigator and Faculty Subject Matter Expert: Dr. Bob Brown, Senior Lecturer of Information Technology, Department of Information Technology

Sponsor, Title, Department, Institution	Dr. Svetlana Peltsverger, Associate Professor and Chair, Department of Information Technology, Kennesaw State University				
Proposal Title	Textbook Transformation for Health Information Technology Related Courses				
Course Names, Course Numbers and Semesters Offered	IT 3503 (undergraduate level) Foundations of Health Information Technology (two sections offered in each of the Fall and Summer terms since 2011) IT 6503 (graduate level) Foundations of Health Information Technology (two sections offered in each of the Fall and Summer terms since 2011)				
Final Semester of Instruction	Last offering: Fall 2016				
Average Number of Students Per Course Section	20	**Number of Course Sections Affected by Implementation in Academic Year**	8	**Total Number of Students Affected by Implementation in Academic Year**	160
Award Category (pick one)	☒ No-Cost-to-Students Learning Materials ☐ OpenStax Textbooks ☐ Specific Top 50 Lower Division Courses				
List the original course materials for students (including title, whether optional or required, & cost for each item)	Both of the following are required: 1. Textbook: Health Information Technology and Management by Richard Gartee, 2011, Prentice Hall, ISBN-13: 9780131592674. $139.60. http://www.pearsonhighered.com/educator/product/Health-Information-Technology-and-Management/9780131592674.page 2. MyHealthProfessionsKit -- Standalone Access Card to Companion Publisher's course materials site, 2011, Prentice Hall, ISBN-13: 9780135079560. $10.00. http://www.pearsonhighered.com/educator/product/MyHealthProfessionsKit-Standalone-Access-Card/9780135079560.page				

Original Per Student Cost	$149.60
Post-Proposal Projected Per Student Cost	$0 Total savings in one academic year: **$149.60 x 160 = $23,936**
Projected Per Student Savings	$149.60
Plan for Hosting Materials	☐ OpenStax CNX ☒ D2L ☐ LibGuides ☐ Other _____ *Note: Materials created in a grant project, excluding instructor-only tests and quizzes, must be made freely-accessible to the public, preferably under a Creative Commons open license.*
Requested Amount of Funding	Compensation for Two Investigators: $5,000 x 2 = $10,000 Travel: $800 Total: $10,800

NARRATIVE

1.1 PROJECT GOALS

Foundations of Health Information Technology at the undergraduate level (IT 3503) introduces students to the field of health information technology (HIT). Students become familiar with the content, use, and structure of the health care data and medical records, health information management, health information security and privacy, fundamentals of health information systems, health care delivery systems in the U.S., and HIT resources.

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The Stakeholders

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This project will 1) benefit students, who will receive the most from the course with the up-to-date information and in-depth understanding of the emerging trends and technologies in HIT, helping them become better prepared for the HIT positions at no cost to them; 2) benefit instructors with the latest, comprehensive content and resources in HIT and ready-to-teach course packages in D2L; and 3) subsequently benefit the HIT companies, healthcare organizations, and federal and state healthcare and HIT agencies (for example, Georgia Department of Community Health), who are in need of HIT students.

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The transformation will impact:

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to the course “Introduction to the Healthcare Management and Informatics”.

1.3 TRANSFORMATION ACTION PLAN

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- to disseminate the transformed course materials by using D2L to share the information developed for IT 3503 and IT 6503 to the other HIT courses listed above

- to assess teaching and learning effectiveness after the course package is in use

Both project investigators are also subject matter experts. Dr. Bob Brown has served as the CIO for a hospital and has extensive experience in Healthcare IT, and Dr. Chi Zhang has a track record of publishing HIT research and HIT curriculum design and development. They have both been teaching HIT courses since they were first offered at the Department of Information Technology. Both of them will work on the tasks specified in the action plan.

1.4 QUANTITATIVE AND QUALITATIVE MEASURES

Quantitative Measures:

- Student performance: Students' grades will be collected and analyzed.
- Student standard course evaluation: Student responses to the standard course evaluation for the transformed courses will be compared with courses used in prior semesters.
- Student feedback: A Likert-scale anonymous survey questionnaire for students' perceived learning effectiveness and learning experience will be conducted online. Survey questions will be composed of validated and published learning effectiveness and learning satisfaction survey instruments. Survey data will be collected and analyzed.

Qualitative Measures:

- Student feedback: The survey questionnaire mentioned above will have open-ended questions allowing students to discuss their learning experiences and give their assessment of teaching materials.
- Instructor feedback: The instructor survey will collect instructors' comments on their teaching experience and an assessment of the teaching materials.
- Both the students' and instructors' answers will be collected and analyzed with identified themes.

1.5 TIMELINE

05/15/2016 – Summer 2016 begins. Preparation for implementing the transformation action plan
06/15/2016 – search and identification of materials that align with course outcomes
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10/15/2016 – implementation of the transformed course packages

12/15/2016 – completion of the transformed course packages, review of course packages and discussion of further modification of the course packages, preparation for the offering of the course, submission of Fall 2016 status report

01/15/2017 – Spring 2017 begins. The transformed courses offered for the first time

05/15/2017 – conclusion of transformed courses conducting of quantitative and qualitative course evaluation and survey for the transformed course

06/15/2017 – review of assessment data and submission of final report to ALG

1.6 BUDGET

Part A: Personnel $10,000

- Dr. Chi Zhang, Project Lead and Faculty Subject Matter Expert: $5,000 for overload compensation in 2016-2017 academic year
- Dr. Bob Brown, Faculty Subject Matter Expert: $5,000 for overload compensation in 2016-2017 academic year

The overload compensation is for the time and effort spent on researching and collecting the course materials, redesigning and developing the transformed courses in D2L, and analyzing the assessment data, and disseminating and reporting the transformed courses.

Part B: Travel $800

ALG Project Training travel for two team members, Dr. Chi Zhang and Dr. Bob Brown.

Total Budget: $10,800

1.7 SUSTAINABILITY PLAN

The sustainability plan for this project is as follows:

- The developed transformed courses in D2L will be the "baseline course packages" for all future courses of IT 3503 and IT 6503. They will provide a guiding foundation for the delivery of the courses, while allowing instructors with different experiences and academic backgrounds to use and adapt to the courses as needed. Both courses will be offered in the summer and fall semesters each year.
- The learning content for the transformed courses are from the leading national and state HIT organizations, agencies, open learning communities, and university library databases, all of which are sustainable resources. This ensures the learning materials will be able to be updated on a regular basis.

- The Department of IT assigns a course architect for all IT courses for continuous improvement as required by ABET accreditation. The course architect is responsible for course materials maintenance – coordination with the course instructor(s) and departmental curriculum committee to report the learning outcome and material updates and to facilitate improvement based on the course feedback from students, instructors, alumni, and industry advisory board.

This sustainability plan shows that the no-cost transformed courses and resources are highly sustainable and will enhance teaching and learning effectiveness in HIT courses.

1.8 REFERENCES & ATTACHMENTS

- A letter from Dr. Svetlana Peltsverger, Chair of Department of Information Technology, College of Computing and Software Engineering, Kennesaw State University