UNIVERSITY SYSTEM
OF GEORGIA

Chi Zhang and Robert Brown

Foundations of Health Information Technology

Grants Collection

Affordable Learning Georgia Grants Collections are intended to provide faculty with the frameworks to quickly implement or revise the same materials as a Textbook Transformation Grants team, along with the aims and lessons learned from project teams during the implementation process.

Each collection contains the following materials:

- Linked Syllabus
    - The syllabus should provide the framework for both direct implementation of the grant team's selected and created materials and the adaptation/transformation of these materials.
- Initial Proposal
    - The initial proposal describes the grant project's aims in detail.
- Final Report
    - The final report describes the outcomes of the project and any lessons learned.

Initial Proposal

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.

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.

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 <u>one</u> 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 <u>created</u> 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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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.

1.2 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).

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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:
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    - 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.
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to the course "Introduction to the Healthcare Management and Informatics".

1.3 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:
  o ONC (The Office of National Coordinator for Health Information Technology)
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  o AHIMA certifications (RHIT, RHIA, etc.) for Health Information Management, Coding, Health Data Analysis, Healthcare Privacy and Security, and Clinical Documentation Improvement
  o 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.

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
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
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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

Syllabus

IT 3503 Foundations of Health Information Technology

Course calendar: (date and time to be adjusted if needed)		
Date	*Topic*	*Due Today*
Module 1 — Careers in Information Technology		
Jan 10	Introduction and overview	
Jan 12	Fundamentals of healthcare and healthcare IT	
Jan 17	Healthcare information professionals – who they are and what they do	Assignment Zero
Jan 19	Critical informatics skills	Assignment 1
Module 2 — Healthcare and Healthcare Delivery Systems		
Jan 24	Clinical and financial records in healthcare	Quiz 1
Jan 26	Journey to the electronic health record	
Jan 31	Evidence based medicine	Assignment 2

Feb 2	Drivers of HIT: Healthcare costs, quality, ARRA and HITECH Act	
Module 3 — Application of Information Technology to Healthcare		
Feb 7	Safety and reliability in health information technology	Quiz 2
Feb 9	Prescribing and order entry systems	
Feb 14	Patient bedside systems	
Feb 16	Departmental and ancillary information systems	Assignment 3, Quiz 3
Feb 21	Help Session	
Feb 23	**Exam 1**	
Feb 28	Billing and payment, Medicare and prospective payment	
Mar 2	Billing Workflow, EDI	
	March 1 is the last day to withdraw with a grade of W.	

Module 4 — Communications systems in healthcare		
Mar 7	Overview of communications systems	
Mar 9	Interfacing and Integration, HL-7 and FHIR	
Mar 14	Health information networks and exchanges	
Mar 16	Telemedicine	
Module 5 — Statistical systems and artificial intelligence		
Mar 21	Statistics and research	
Mar 23	**Exam 2**	
Mar 28	Clinical decision support systems	
Mar 30	Artificial intelligence in HIT	
Apr 4–6	*No meeting – Spring Break*	
Module 6 — Security, privacy, and legal considerations		

Apr 11	Licensure, accreditation, and regulation	
Apr 13	Security Considerations for HIT	
Apr 18	Cryptographic systems	
Apr 20	HIPAA Privacy Rule	
Apr 25	HIPAA Security Rule	
Apr 27	Review for Final	
May 2	**Final Exam**	

Required text: This course has no required textbook.

Meeting times and instruction modality: This course will be conducted as a classroom section. The course will be conducted through lecture and discussion with reading assignments, homework assignments, quizzes, and examinations. The course meets (fill in day, time, and location).

Catalog Description: *IT 3503 - Foundations of Health Information Technology*
3 Class Hours 0 Laboratory Hours 3 Credit Hours
Prerequisite: IT 3123
This course introduces students to the field of health information technology (HIT). Students will become familiar with the content, use, and structure of the health care data and medical records, health information management, and fundamentals of health information systems. Students will also become familiar with the health care delivery systems in the U.S. and IT organizations and resources.

Course outcomes: Students who complete this course successfully will be able to:

1. Describe the healthcare delivery systems and different healthcare settings in the U.S. and the reimbursement methodologies utilized in healthcare organizations
2. Describe the factors that had led to a need for health information technology and Electronic Health Record systems
3. Provide examples of different types of health information technology used in the healthcare organizations
4. Explain the importance of health data management and performance improvement activities in the healthcare environment
5. Identify the effect the ethical and legal issues on health information technology
6. Explain HIPAA and HITECH regulations and analyze ways to maintain the privacy and security of protected health information
7. Recognize the future of health information technology in order to be an organizational resource in this topic area

Academic conduct: Collaboration with your classmates in studying and understanding the material is part of the collegiate experience and is strongly encouraged. Collaboration on written assignments is permitted and encouraged, but each student must turn in work written in his or her own words. Copying another's work will be considered cheating; all students involved will receive a grade of zero, a reduction in the course grade, and possibly other penalties including failure of the course and dismissal from the University. Unless you are specifically advised otherwise by the instructor, any work submitted for credit must be completely the work of the individual student.

Collaboration or cheating on examinations will result in a grade of zero, a reduction in the course grade, and possibly other penalties including failure of the course and dismissal from the University. Plagiarism, fabrication, or other academic misconduct will result in a grade of zero, a reduction in the course grade, and possibly other penalties, including failure of the course and dismissal from the University.

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c of the Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be

handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. See also https://web.kennesaw.edu/scai/content/ksu-student-code-conduct.

It is very important that you understand the concepts of academic integrity. If any of the above is not clear, or if you are not certain what some of the terms mean, please ask me. A misunderstanding in this area could end your academic career.

Use of Course Materials: Some lecture slides, notes, or exercises used in this course may be the property of the textbook publisher or other third parties. All other course material, including but not limited to slides developed by the instructor(s), the syllabus, assignments, course notes, course recordings (whether audio or video) and examinations or quizzes are the property of the University or of the individual instructor who developed them. Students are free to use this material for study and learning, and for discussion with others, including those who may not be in this class, unless the instructor imposes more stringent requirements. Republishing or redistributing this material, including uploading it to web sites or linking to it through services like iTunes, violates the rights of the copyright holder and is prohibited. There are civil and criminal penalties for copyright violation. **Publishing or redistributing this material in a way that might give others an unfair advantage in this or future courses may subject you to penalties for academic misconduct.**

*KSU policy states, "*No person shall make public any electronically recorded class discussion without the written permission of the instructor."

Grading Plan	IT 3503
Individual Assignments	30%
Examinations (2 at 15% each)	30%

Quizzes and Participation	15%
Final Exam	25%

In general, I will use the following scale to assign course letter grades. However, I reserve the right to make adjustments (either up or down) for borderline cases.

Grading Scale: 90 and above: A. 80-89.9: B. 70-79.9: C. 60-69.9: D. Below 60: F.

Extra Credit: Projects or exercises for additional credit are not available in this or any of my courses. If I offered such an opportunity to one of you, I'd have to offer it to everyone, and then it wouldn't be "extra" any more. I do generally include a couple of optional questions on exams. Those will help raise the grades of students who are well prepared for the exams.

Grades prior to the midpoint of the term: You will receive at least one examination grade and one homework or quiz grade prior to the midpoint of the term, which is the last date to withdraw with a grade of W. If, at any time, you are concerned about your progress in the course, please talk to me.

Class participation policy: Participation in class is expected. You participate by engaging meaningfully in the class discussions. Asking relevant questions and, most especially, answering the questions of others when you are sure of the answer, id the most helpful participation.

You should be aware that information not in the book will be presented in the discussions and you will be held responsible for it on examinations. You are responsible for announcements, assignments, and syllabus revisions made during the term.

Historically, students with good participation records have done significantly better in my classes than students with poor records.

Preparation: You will be expected to have read this syllabus and the *Standards of Academic Conduct* handout prior to the due date for Assignment Zero. You should

complete the reading assignments according to the course calendar and syllabus. I recommend that you read each chapter before it is discussed and jot down questions about anything that is not clear. Ask your questions in the discussion area. Then re-read each chapter, jotting down important points. Use these notes to study for the examinations.

Submission of work for this course: All work for this course will be submitted using Desire2Learn. Only work submitted through the Desire2Learn "Dropbox" tool will be accepted. No email. No paper. No excuses! You are responsible for allowing enough time to check your upload. "Technical difficulties" will not be accepted as an excuse for missing work.

Be sure you complete the D2L upload process; you will get an auto-generated confirming email. "It didn't work" will not be accepted as an excuse. Be careful what you upload. "I uploaded the wrong document" will not be accepted as an excuse.

You must prepare your work in a form that can be opened with Microsoft Word 2010 or later. One way of doing that is with Libre Office, which is a free and open-source software product. (If you have access to MS Word, just use it; you don't have to download and learn Libre Office.)

Every submission must have your name and the assignment number on the first page. At least in some cases I'm going to be downloading these assignments. If you haven't told me who you are, I can't record your grade!

If you are struggling with the written part of assignments, the KSU Writing Center helps students in all majors improve their writing. Writing assistants help with topic development, revision, research, documentation, grammar, and more. For more information or to make an appointment, visit writingcenter.kennesaw.edu or stop by English Building, Room 242 (Kennesaw campus) or Room A-184 (Marietta campus).

Due dates: Assignments are due *at 11:59 PM* on the date shown in the syllabus or course calendar. Late assignments will not be graded and will be recorded as zeros. As university students, I expect you will manage your time well enough to be able to complete your assignments on time in spite of both usual and unanticipated events.

Assignment Grades: Assignments are graded on a 100 point scale. If you have questions about any part of an assignment, ask me well before the due date. "I didn't understand," will not be accepted for missing or incomplete work.

Assignment Peer Review: Some assignments may be reviewed by your peers as part of the grading process. I reserve the right to determine which assignments will be peer reviewed and to assign reviewers.

Examinations will be based in part on the contents of the assignments.

Style Guidelines: Work for this course must be prepared in a form that I can open with Microsoft Word. (See above.) Do not submit plain text files as I cannot add comments to them with Word. Your work should have your name on it.

Prepare your work double-spaced in a 12-point serif font with one inch margins on all sides. Citations and reference sections may be in MLA or APA format.

Working in Teams: The course may include team projects. The intent of working in teams is that you will divide up the work, and not that you will all do everything together. A portion of some class meetings may be reserved for team planning. Outside of class, you have the option of organizing additional team meetings, communicating by telephone, communicating by e-mail, using a D2L discussion area, or any combination of these. I strongly suggest that the team member(s) responsible for the final draft of each case send it to the rest of the team in time to allow the team members to read and comment upon the draft. Similarly, the team member(s) responsible for preparing a presentation should circulate the presentation materials to the rest of the team in time to allow for comments.

Turnitin Similarity Detection: Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

Quizzes: Quizzes for this course will be administered using Desire2Learn and will be available approximately three days before the due date. They are open-book and open-notes, but *not* "open Internet." Why not? Well, there's a lot of misinformation

and incomplete information on the web, and I don't want to put any into your heads through the quizzes. In any case, quizzes are timed, so you will not have much research time available.

Each quiz is worth only 1-4 points on your final grade, so if you have trouble with one of them do not despair. The main value of the quizzes is to help you assess whether you're ready for the examinations.

Examinations: Examinations will consist mainly of short-answer questions. You must take the exams on the dates in the syllabus unless you have made arrangements with me well in advance of the exam. Makeup examinations will not be given unless you make *prior* arrangements with me. You must take the final exam on the date set by the Registrar; no exceptions will be permitted unless a licensed medical practitioner certifies that you are unable to take the examination. The final examination will be comprehensive.

Students with disabilities: Kennesaw State University provides program accessibility and reasonable accommodations for persons defined as disabled under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Kennesaw State University does not deny admission or subject to discrimination in admission any qualified disabled student.
A number of services are available to help students with disabilities with their academic work. In order to make arrangements for special services, students must visit the Office for Student Disability Services and make an appointment to arrange an individual assistance plan. In most cases, certification of disability is required. Special services are based on

- medical and/or psychological certification of disability,
- eligibility for services by outside agencies, and
- ability to complete tasks required in courses.

Student Support Services
Kennesaw State University wants you to succeed, and provides support services to help you do so.
You will find more information here http://kennesaw.edu/currentstudents.php and here: http://sss.kennesaw.edu/

ADA Position Statement
Kennesaw State University, a member of the University System of Georgia, does

not discriminate on the basis of race, color, religion, age, sex, national origin or disability in employment or provision of services. Kennesaw State University does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its programs or activities.

The Americans with Disabilities Act (ADA), Public Law 101-336, gives civil rights protections to individuals with disabilities. This statute guarantees equal opportunity for this protected group in the areas of public accommodations, employment, transportation, state and local government services and telecommunications.

The following individuals have been designated by the President of the University to provide assistance and ensure compliance with the ADA. Should you require assistance or have further questions about the ADA, please contact:

- ADA Compliance Officer for Students
  470-578-6443
- ADA Compliance Officer for Facilities
  470-578-6224
- ADA Compliance Officer for Employees
  470-578-6030

For more information, go to: http://www.kennesaw.edu/stu_dev/dsss

Information about accessibility of technologies required for the course can be found here:*https://softchalkcloud.com/lesson/serve/jV10GKPfztZwQn/html*

Privacy Policies

The privacy policy for Desire2Learn Brightspace can be found here: http://www.brightspace.com/legal/privacy/

The privacy policy for the Learning Styles Index is included in the FAQ and states: "Your response data and your learning style profile are not stored or sent to anyone other than you and cannot be recovered once you have received the profile."

How to Succeed in this Class: Here are five things you can do that will greatly improve your chances of making a satisfactory grade in this class:

- **Read the syllabus:** It is *a lot of trouble* to prepare so detailed a syllabus. You should assume I had a reason for it. You should read *every word* in the syllabus before the second class. I will not be sympathetic to complaints that you didn't understand something about the course if it's written down in the syllabus.
- **Read the textbook:** You will get a lot more out of this class, and so be able to give back more on the assignments and examinations, if you read the assigned parts of the textbook *before* class. In my experience, students who don't complete the reading before class either never complete it or try to cram it all in just before the exams. That doesn't work.
- **Participate in the discussions:** Participation forms a part of your course grade. When you participate in the discussions, you learn and also help others learn. The printable slides are an integral part of the course. If you ignore them, you will learn less and probably earn a lower grade.
- **Do the homework:** You cannot pass the course without doing at least most of the homework. The homework assignments build upon one another. If you get behind, you will find it very difficult to catch up.
- **Allow enough time:** More unsatisfactory grades are due to procrastination than any other cause. Do not assume that you can complete the homework and reading assignments in the thirty minutes before the due date and time; you cannot. The most successful students complete this work the weekend before it is due.

Instructor

Dr. Chi Zhang, Associate Professor of IT, College of Computing and Software Engineering (CCSE)

Website: http://facultyweb.kennesaw.edu/czhang4/index.php

Email: chizhang@kennesaw.edu   **Office:** Marietta Campus J-370

Office Hours: By appointment for meeting in office, or by email anytime

- ▪ Please use D2L course email for your questions related to the course. <u>Be sure to have a descriptive subject line with the course number and title.</u>

Course Description

IT 6503 - Foundations of Health Information Technology

3 Class Hours 0 Laboratory Hours 3 Credit Hours

This course provides an overview of the importance of information technology and information systems in the health care industry. It provides an overview of the healthcare IT industry in the U.S. and clinical terminologies, a review of fundamental characteristics of clinical information, health information exchange stands (HL7); healthcare payment and reimbursement systems, the challenges of IT implementation, and a detailed discussion of the primary clinical and managerial applications of information (including electronic health records - EHR). Group and individual research will be required.

Course Objectives:

Upon successful completion of this course, students should be able to:

1. Describe the healthcare delivery systems and different healthcare settings in the U.S. and the reimbursement methodologies utilized in healthcare organizations
2. Describe the factors that had led to a need for health information technology and Electronic Health Record systems
3. Provide examples of different types of health information technology used in the healthcare organizations
4. Explain the importance of health data management and performance improvement activities in the healthcare environment
5. Identify the effect the ethical and legal issues on health information technology
6. Explain HIPAA and HITECH regulations and analyze ways to maintain the privacy and security of protected health information
7. Recognize the future of health information technology in order to be an organizational resource in this topic area

Methods of Teaching and Learning:

The course will be presented through lectures slides and supplementary readings, both of which will be available in D2L. Class modules focus on knowledge and understanding of the key elements of the health information management and health information technology. Students will participate in discussion, assignments, term project, and quizzes over the course materials.

Course Outline

Below is a tentative outline of the content and activities in each week. Please note that this schedule is subject to change. Changes, if necessary, will be announced in class, posted in the D2L class announcements.

	Date	Topics	Due Today
1	8/15	- Introduction to the course - Introduction to HIT and HIT jobs - Guest lecture: how to start HIT career https://drive.google.com/folderview?id=0BxjmF0S_9z6OODdDSjhTdVBBLW8&usp=sharing	
2	8/22	- Healthcare delivery systems in the US - Health information professionals	- Discussion#1&2
3	8/29	- Healthcare processes & decision making - Evidence-based practice	
4	9/5	- History and development of IT systems in healthcare - Patient outcomes	9/4 Labor Day
5	9/12	- Impact of HIT on healthcare delivery and on providers	- Discussion#3 - Quiz#1
6	9/19	- HIT laws, policies, and regulations including HITECH and meaningful use	
7	9/26	Mid-term exam	- Written#1 - Quiz#2
8	10/3	- Protecting privacy, security and confidentiality in HIT systems	10/4 last day to withdraw with "W"
9	10/10	- Introduction to the major components of HIT systems - Fundamentals of usability in HIT systems	- Discussion#4 - Quiz#3
10	10/17	- Overview and introduction to Electronic Health Records (EHRs) - Functional requirements & standards for EHRs	- Written#2 - Quiz#4
11	10/24	- Health information exchange and interoperability	
12	10/31	- Healthcare coding, transactions, billing, and payment	- Discussion#5 - Quiz#5
13	11/7	- Health data analytics	
14	11/14	- HIT system planning, acquisition, and management - Emerging trends of HIT	- Discussion#6
15	11/21	NO CLASS	Fall break
16	11/28	Wrap and review	- Project or Research Paper
17	12/5	Final exam	

Grading

Writing & Discussion Assignments	60%
Online Quizzes	10%
Midterm Exam	10%
Final Exam	10%
Project	10%
Total	**100%**

Discussion:

Discussions will be good learning opportunities when participants are prepared for the discussion, and share their viewpoints after reflecting on the articles, presentations, personal knowledge, personal experiences and learning objectives of the discussion. Online discussion will be taken place in DISCUSSIONS in D2L.

Discussion Grading

- For each discussion assignment, post your own two days before the due date and respond to at least two others' posts by the due date, unless stated otherwise.
- Provide original, reasoned and clear viewpoints that you feel are constructive to the discussion.
- Provide appropriate reference to the sources (e.g., full references for the articles you have read, or URL for web sites you have visited).
- Show others courtesy and respect.

Writing Assignments:

The writing assignments throughout the semester are learning opportunities for you to understand in depth what is involved in health information technology. The write-up of the assignments must follow the template provided for the assignment. For APA format guide, please go to http://owl.english.purdue.edu/owl/resource/560/01/. For MLA format guide, please go to https://owl.english.purdue.edu/owl/resource/747/01/.

Late Assignments Policy:

With the exception of term project deliverables and assignments due in the final week, you may submit assignments late up until one week after the assignment due date. A penalty of 10% per day will be applied to the grade you achieved on the assignment submitted after the deadline.

Online quizzes:

All of the online quizzes are open-book and open-notes and you will have up to three times to take it.

Proctored exam:

Please note that all of the students (online or hybrid) may be required to take proctored exam for the final exam.

1. On campus students take the exam at a commonly scheduled time on campus. Online students are welcome to join the class.
2. Online students take the exam at a scheduled time at http://www.proctoru.com/. The University pays for this service by providing students voucher numbers. Note that student will be responsible for the registration with proctorU.com.
3. PLEASE CONTACT THE INSTRUCTOR ASAP IF YOU HAVE ANY QUESTIONS.

What to expect from the quizzes and exams:

The online quizzes focus on the concepts introduced in the learning modules. The midterm and final exams also include case study analysis questions. The final exam is not a comprehensive exam. You will only be tested on the material covered since the midterm exam.

Turn-around time/feedback:

The assignments and exams will be graded by instructor and/or graduate assistant. The feedback will be returned in about a week after the submission due date.

Course Expectations

Class Rules:

1. You are responsible for all course announcements and assignments posted in D2L.
2. For this class, you should expect to spend two to three hours each week on average on coursework. Logging in at least three times a week is minimally necessary to be productive and to interact with your peers. Active participation in the course discussion is encouraged.
3. It is very important that you understand the student codes of conduct and academic integrity (details can be found in the next sections). Incidents of alleged academic misconduct will be handled:
    1) your assignment/quiz/exam grade could be zero
    2) your final grade could be reduced by a letter, or
    3) a formal hearing procedure will be followed per the University policy
4. If you must miss an announced quiz/exam due to illness, work, travel, or other valid reasons, you must make alternative arrangements with instructor PRIOR TO the quiz/exam date.
5. Your feedback to the course is very important. You are expected to complete the course survey at the end of the semester.

Turnitin:

Students agree that by taking this course some required writing assignments may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

University Policies

KSU's Statement on Academic Integrity:

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c of the Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. See also https://web.kennesaw.edu/scai/content/ksu-student-code-conduct.

KSU's Statement on Disruption of Campus Life:

It is the purpose of the institution to provide a campus environment, which encourages academic accomplishment, personal growth, and a spirit of understanding and cooperation. An important part of maintaining such an environment is the commitment to protect the health and safety of every member of the campus community. Belligerent, abusive, profane, threatening and/or inappropriate behavior on the part of students is a violation of the Kennesaw State University Student Conduct Regulations. Students who are found guilty of such misconduct may be subject to immediate dismissal from the institution. In addition, these violations of state law may also be subject to criminal action beyond the University disciplinary process.

KSU Student Codes of Conduct:

All students are responsible for knowing the information, policies and procedures outlined in this document. Kennesaw State University reserves the right to make changes to this code as necessary and once those changes are posted online, they are in effect. Students are encouraged to check online https://web.kennesaw.edu/scai/content/ksu-student-code-conduct for the updated versions of all policies.

Withdrawal from Courses

Please refer to the Office of the Registrar http://www.kennesaw.edu/registrar/policies/withdrawl.php.

Additional Legal Considerations with Web Links for Details

Copyright Law:

The Copyright Law of the United States (codified as Title 17 U.S.C.) governs the making of photocopies or other reproductions of copyright material. Teachers have latitude to copy materials, but within the "fair use" intent and should consider the effect of the copying on the sales of books and other materials. The Board of Regents provides comprehensive information on university policies and procedures with regard to copyright laws at: http://www.usg.edu/copyright/

Disability Accommodations:

Students with qualifying disabilities under the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act who require "reasonable accommodation(s)" to complete the course may request those from Office of Student Disability Services. http://www.usg.edu/siteinfo/accessibility_tutorial/the_law

Student Privacy:

Students have certain rights to privacy. http://registrar.kennesaw.edu/resources/ferpa.php
The University's online learning system and email system are designed to prevent unauthorized individuals from gaining access to sensitive information or information protected by federal or state law. We will communicate regarding course matters through the University's designated technology learning system or Kennesaw state email system.

Electronic Recording & Social Media Policy (Pending):

Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one's brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one's consent. No person shall make public any electronically recorded class discussion without the written permission of the instructor.

Ethics Statement:

Respect religious, cultural, and gender differences. Kennesaw State University recognizes that an ethical, efficient,

and effective work environment is essential to our continuing to successfully accomplish our mission. As a result, we have always placed a high priority on assuring that each member of our university community has the opportunity and means to convey any matter that could compromise that environment https://web.kennesaw.edu/hr/content/compliance-and-ethics-reporting-hotline.

Netiquette: Communication Courtesy

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf.

Sexual Misconduct Policy:

Kennesaw State University does not condone and will not tolerate sexual misconduct or sexually exploitative or harassing behavior of any kind. Adhere to KSU's policy prohibiting sexual misconduct both in and out of the classroom https://policy.kennesaw.edu/content/sexual-misconduct-policy

Web Accessibility:

Policies on the standards for all course materials posted online can be found at: http://www.usg.edu/siteinfo/accessibility_tutorial/the_law

KSU Student Recourses

For issues with technical difficulties, please contact the Student Helpdesk:

- Email: studenthelpdesk@kennesaw.edu; Call: 470-578-3555; Website: https://uits.kennesaw.edu/

Student Recourses and Technology Resources:

For more information and get support for the University Library, Tech Support, Student Support Resources, Tutoring & Academic Support, Advising, Bookstore Resource Guide, Online Courses, Desire2Learn, please go to http://learnonline.kennesaw.edu/resources/tech.php.

Final Report

Affordable Learning Georgia Textbook Transformation Grants

Final Report

Date: May 18, 2018

Round: 5

Grant Number: 229

Institution Name(s): Kennesaw State University

Team Members:

Dr. Chi Zhang – Associate Professor, Department of Information Technology, Kennesaw State University. chizhang@kennesaw.edu

Dr. Robert Brown – Senior Lecturer, Department of Information Technology, Kennesaw State University. bob.brown@kennesaw.edu

Project Lead: Chi Zhang

Course Name(s) and Course Numbers: IT 3503 and IT 6503 Foundations of Health Information Technology

Semester Project Began: Spring 2016

Semester(s) of Implementation: Fall 2016, Spring 2017, Summer 2017, Fall 2017 (the courses usually are not offered in the Spring semester)

Average Number of Students in Each Class (Fall 2016 - Fall 2017):

IT 3503 = 29; IT 6503 = 20

	Courses		Enrollment
	IT 3503	IT 6503	
Fall 2016	39	23	62
Spring 2017	16	Not offered	16
Summer 2017	20	10	30
Fall 2017	41	28	69
Average:	**29**	**20**	**Total: 177**

Number of Courses Affected by Implementation: Both courses

Total Number of Students Affected by Implementation: 135

1. Narrative

A. Describe the key outcomes, whether positive, negative, or interesting, of your project.

We began the transformation project by facing out the required textbook by Gartee, Richard, Health Information Technology and Management, ISBN-13: 9780131592674. Our team started with the existing materials that the project lead had been developed covering the topics in the textbook and beyond. These materials were in the form of PowerPoint slide sets and online materials. They are converted into Word format and added the lecture learning objectives, and began of collecting additional topics and related content from a number of Health IT resources, including the major Health IT and health information management organizations http://www.himss.org/, http://www.ahima.org/, https://www.ama-assn.org/, federal and state health IT related agencies https://www.hhs.gov/, https://www.healthit.gov/, http://ga-hitec.org, and Health IT web portals, such as http://www.himsswire.com/, http://www.healthit.gov/newsroom/news-releases, http://www.hitechanswers.net/, http://www.healthcareitnews.com/, http://www.healthcareupdatenewsservice.com/, http://www.govhealthit.com/, and http://www.healthdatamanagement.com/.

Since the project lead is a Certified Professional in Healthcare Information and Management Systems http://www.himss.org/health-it-certification/cphims since 2013 and a Certified Health Data Analyst http://www.ahima.org/certification/chda since 2017, the content offered by the HIMSS and AHIMA continuing education virtual events http://www.himss.org/health-it-education/learning-center were also collected as the current issues to complement the course materials.

It is emphasized in the course materials and to the students that since IT is advancing fast

and consequently the current issues of Health IT are changing, the materials provided in the

class are the foundational concepts of Health IT (as reflected on the course title). A selection of

the above web links provided to students is in Appendix. Students are asked to browse them on

a regular basis to keep current in the field and share the current issues they think interesting

with the class on the class discussion board. Some discussion assignments are designed for this

purpose. The course materials of both IT 3503 and IT 6503 can be downloaded from

http://ksuweb.kennesaw.edu/~czhang4/.

The textbook transformation experience provides us (course designers, developers, and

instructors) an opportunity to thoroughly reevaluate our Health IT curriculum, examining the

course learning outcomes, and how they map to the program outcomes. The process of

evaluating the online materials makes us more aware of the recent trends and current issues in

Health IT and also helps our ongoing continuous improvement of the courses.

Kennesaw State uses Digital Measures (DM) to evaluate teaching effectiveness.

Students in the classes skipped the two questions about textbooks in DM. They might think this

is a class without textbook and they did not have to answer the questions. We need to remind

students in the future about leaving comments on the instructional materials.

2. Quotes

Provide three quotes from students evaluating their experience with the no-cost learning

materials.

"This course provided meaningful state of the art material during the course. The

instructor is very much on top of her subject matter. I walked away from this course with a

much greater exposure and understanding of HIT. I appreciate the instructor-compiled

materials, up-to-date and free."

"The course content had many different examples of health IT systems. The content was

varied enough so that I could apply many of the topics in real world application. There were

many opportunities to learn, and all topics included real world application. "

"The instructor provides many opportunities for me as a student to learn. I am new to

the healthcare field and the topics that were covered in the course content reviewed many

different types of HIT systems that may not be able to be covered in a single textbook."

3. Quantitative and Qualitative Measures

3a. Overall Measurements

Student Opinion of Materials

Was the overall student opinion about the materials used in the course positive, neutral, or negative?

Overall student opinion about the materials used in the course was positive. A few

students commented that the course materials could be organized more coherently and

the transition between the modules could be improved. After receiving the comments,

we added the mapping between module objectives and course objectives to guide

students through the modules.

Courses	Total number of Respondents	Opinion on the non-cost-material		
		Positive	Neutral	Negative
IT 3503 (HIT – undergraduate level)	12	7	2	1
IT 6503 (HIT – graduate level)	18	12	5	1

Student Learning Outcomes and Grades

Was the overall comparative impact on student performance in terms of learning outcomes and grades in the semester(s) of implementation over previous semesters positive, neutral, or negative?

The overall impact on student performance in terms of grades is neutral but students'

perception of the rich and up-to-date learning materials is positive and encouraging. The

materials make students well aware of the fast advancing landscape of the HIT field, from

adoption of electronic health record systems since 2009 when HITECT Act was enacted to the

current focus on health information security, interoperability, and using APIs to access health

information. The learning materials also help students to have the ability to be life-long learner

as IT professionals, which is one of the Program Educational Objectives of both the BSIT and

MSIT programs.

Choose One: (Unknown at this time)
- _x__ Positive: Higher performance outcomes measured over previous semester(s) – *in terms of achieving learning outcomes*
- _x__ Neutral: Same performance outcomes over previous semester(s) – *in terms of grades*
- ___ Negative: Lower performance outcomes over previous semester(s)

Student Drop/Fail/Withdraw (DFW) Rates

Was the overall comparative impact on Drop/Fail/Withdraw (DFW) rates in the semester(s) of implementation over previous semesters positive, neutral, or negative?

Drop/Fail/Withdraw Rate: (Unknown at this time).

_____% of students, out of a total _____ students affected, dropped/failed/withdrew from the course in the final semester of implementation. *Unknown at this time.*

Choose One:

- ___ Positive: This is a lower percentage of students with D/F/W than previous semester(s)

- _x__ Neutral: This is the same percentage of students with D/F/W than previous semester(s) – *the final grade worksheets are unavailable in the Banner system to the instructors at this time. But based on the grades of quizzes and assignments, there is not significant difference found in terms of the D/F/W rate.*
- ___ Negative: This is a higher percentage of students with D/F/W than previous semester(s)

3b. Narrative

We used both quantitative and qualitative methods to assess the effectiveness of the learning materials developed in Fall 2017 when both IT 3503 and IT 6503 are offered. Performance data (success rate, grades DFW rate), end-of-semester student survey, and student feedback to the learning materials were utilized. The end-of-semester survey had open-ended questions for students to provide more input and elaborate their experience. The analysis of the comments shows that most students feel positive about the instructor-generated materials and appreciate the fact of no-cost for the 'textbooks'.

4. Sustainability Plan

Kennesaw State University and the Department of Information Technology encourage providing no-cost and low-cost courses for the students. The project team has been using these course materials – lecture notes, slides, assignments and assessments. The project lead has been highly involved in continuing education of her own, going to HIT-related conferences and workshops, taking online courses, and signing up for webinars, offered by HIMSS and AHIMA and other professional organizations. The continuing education is also the requirements for fulfilling her CPHIMSS and CHDA certification renewals. The project lead, also serving as the HIT course coordinator, has been continually updating and editing the course materials and plans to work on an open textbook in the near future.

5. Future Plans

This project has served to increase the project team's awareness of free and open

learning materials. It encourages both instructors and students to keep current with the topics

of the subject. It enables students not only to learn the subject matter in the course but also

aware of life-long learning expectation, one of the program educational outcomes. The project

team is looking to apply the same successful experience to other HIT courses through future

ALG grants.

6. Description of Photograph (attached below)

Left-right: Dr. Chi Zhang, project lead, and Dr. Bob Brown. In front of the Department office of Information Technology, College of Computing and Software Engineering, Kennesaw State University.

Appendix: Handouts for students

Resources for Health Information Technology and Health Information Management

1. Health IT News (check frequently)

1. **Health IT News** (published in partnership with HIMSS)
   http://www.healthcareitnews.com/
2. **Health IT Buzz** (the latest on HIT from ONC) https://www.healthit.gov/buzz-blog/
3. **HIMSS' Health IT Pulse** http://www.himss.org/news
4. **Mobi Health News** (a publication of HIMSS media) http://www.mobihealthnews.com/
5. **HIMSS Webinars:** http://www.himss.org/Events/index.aspx?EventType=1986&

2. Health IT (HIT) and Health Information Management (HIM) organizations

1. **ONC** (The office of National Coordinator for Health Information Technology)
   http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov__home/1204
2. **HIMSS** (Healthcare Information and Management Systems Society)
   http://www.himss.org
3. **mHIMSS** (Mobile HIMSS) http://www.mhimss.org/
4. **AHIMA** (American Health Information Management Association)
   http://www.ahima.org/
5. **AHRQ** (Agency for Healthcare Research and Quality), National Resource Center for
   Health Information Technology
   http://healthit.ahrq.gov/
6. **Health Information Privacy and Security Collaboration (HIPSC)**
   http://healthit.ahrq.gov/portal/server.pt?open=512&objID=654&&PageID=13062&mod
   e=2&in_hi_userid=3882&cached=true
7. **DOQ-IT** (Doctors' Office Quality Information Technology)
   https://www.qualitynet.org/
8. **HIPAA for Professionals** https://www.hhs.gov/hipaa

3. Health IT related certifications

1. **CAHIMS/CPHIMS** from HIMSS
2. **CPHIT:** Certified Professional in Health Information Technology
3. **HCISSP:** HealthCare Information Security and Privacy Practitioner
4. **RHIA:** Registered Health Information Administrator
5. **RHIT:** Registered Health Information Technician

For the certification details, comparisons, job board search results for the certifications,
please check out http://www.tomsitpro.com/articles/healthcare-it-certifications,2-
696.html.