Affordable Learning Georgia Affordable Materials Grants  
Transformation Grants Final Report

*(or Textbook Transformation Grants, if R17 or earlier)*

# General Information

**Date: Final Report Completed on 5/11/2025**

**Grant Round: 25**

**Grant Number:** **708**

**Institution Name(s): Fort Valley State University**

**Project Lead: Dr. Dawit Aberra, Professor, Natural and Computational Sciences,** [**aberrad@fvsu.edu**](mailto:aberrad@fvsu.edu)

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

* **Dr. Fesseha Gebremikael, Associate Professor, Department of Business Administration,** [**fesseha.gebremikael@fvsu.edu**](mailto:fesseha.gebremikael@fvsu.edu)
* **Dr. Ishwari Kunwar, Associate Professor, Department of Natural and Computational Sciences,** [**kunwari@fvsu.edu**](mailto:kunwari@fvsu.edu)
* **Dr. Sanjeev Arora, Professor, Department of Natural and Computational Sciences,** [**aroras@fvsu.edu**](mailto:aroras@fvsu.edu)

**Course Name(s) and Course Numbers:**

* **BUSA 3213 (Statistics for Business and Economics) and**
* **MATH 2203 (Intro Linear Algebra)**

**Semester Project Began: Spring 2024**

**Final Semester of Implementation: Spring 2025**

**Total Number of Students Affected During Project: 50 (Spring 2025)**

# Narrative

The primary objective of our project was to enhance student success by transitioning to free open educational resources (OERs) for two courses, BUSA 3213 and MATH 2203. This initiative leveraged cost-free textbooks from OpenStax for BUSA 3213 and LibreTexts/Lyryx for MATH 2203 alongside complementary learning materials. This approach ensured immediate textbook access at the semester's start, eliminating delays due to financial aid processing. As a result, students enrolled in BUSA 3213 and MATH 2203 will save approximately $252.95 and $79.99, respectively, per semester. This saves FVSU students a total of $20,828.22 annually.

Our strategy involved the integration of several OER platforms to revamp these courses completely:

* OpenStax and Lyryx/LibreText provided the core textbooks for BUSA 3213 and MATH 2203, respectively.
* MyOpenMath offered comprehensive assessments and learning materials tailored to the syllabi and textbooks of each course.
* LibreTexts and other sources supplied web-based interactive calculators or Google Colab notebooks featuring R/Python/Sage enhancing the technological resources available to students.
* MathIsPower4u.com and similar platforms enriched the courses with various topical video clips.

**Key outcomes (actions) included:**

* Adopting the "Introductory Business Statistics" by Holmes, Illowsky, and Dean from OpenStax for BUSA 3213 and "A First Course in Linear Algebra, an Open Text" from Lyryx/LibreTexts for MATH 2203, replacing costlier textbooks.
* Creating and integrating new homework assignments, test reviews, tests, video lessons, and examples in MyOpenMath, aligned with course objectives and the new textbooks.
* Embedding appropriate web-based interactive calculators, primarily from LibreTexts, and also Google Colab notebooks within course materials for enhanced accessibility and learning efficiency.
* Ensuring assessments are error-free, algorithmically generated, and offer immediate feedback to support learning.
* Augmenting courses with PowerPoint slides that are closely aligned with the new textbooks for coherent unit and lesson teaching.
* Enhancing course content with relevant video lessons and examples from MathIsPower4u and other resources, offering additional support for all course topics.
* Facilitating faculty development opportunities to explore and adopt innovative teaching methodologies, including computing technologies and online or flipped classroom models.

This comprehensive overhaul of BUSA 3213 and MATH 2203 aimed at not only to reduce educational costs but also at enriching the learning experience with modern, accessible, and engaging resources.

# Quotes

* The Assessments (HomeWorks, tests and test reviews) on this course are easy to access. (92% agreed or strongly agreed)
* The video clips whose links are inserted under each chapter of the course in MyOpenMath were appreciated (92% rated important or Very Important)
* I see myself as a highly motivated student to pass this course with a good grade. (92% agreed or strongly agreed)

# Quantitative and Qualitative Measures

## Uniform Measurements Questions

Total number of students affected in this project: \_51\_ (Spring 2025)\_\_\_

* Positive: \_91.7\_\_\_\_\_\_ % of \_\_\_12\_\_\_\_\_ number of respondents
* Neutral: \_\_8.3\_\_\_\_\_ % of \_\_12\_\_\_\_\_\_ number of respondents
* Negative: \_\_\_0\_\_\_\_ % of \_\_\_12\_\_\_\_\_ number of respondents

**Student Learning Outcomes and Grades**

Choose One:

* **\_X\_\_** Positive: Higher performance outcomes measured over previous semester(s)
* \_\_\_ Neutral: Same performance outcomes over previous semester(s)
* \_\_\_ 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?**

*Depending on what you and your institution can measure, this may also be known as a drop/failure rate or a withdraw/failure rate.*

\_\_\_\_**12\_\_\_%** of students, out of a total **\_\_\_50\_\_\_\_** students affected, dropped/failed/withdrew from the course in the final semester of implementation.

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)
* \_\_\_ Negative: This is a higher percentage of students with D/F/W than previous semester(s)

## Measures Narrative

Based on 12 survey participants, the following survey has been conducted, and the results are summarized. Please also see the attached PDF file for clearer output of summary.

**A screenshot of a phone

AI-generated content may be incorrect.**

**A screenshot of a computer

AI-generated content may be incorrect.**

**A screenshot of a computer screen

AI-generated content may be incorrect.**

**A screenshot of a graph

AI-generated content may be incorrect.**

**A close-up of a document

AI-generated content may be incorrect.**

**DWF RATE SUMMARY TABLE OF SPRING 2025 VS PREVIOUS SEMESTER (SPRING 2024) of students registered in both MATH 2203 and BUSA 3213.**

|  |  |  |
| --- | --- | --- |
|  | **SPRONG 2024** | **SPRING 2025** |
| **DWFI Rate** | **11.3 %** of 53 students | **12 %** of 50 students |
| **Mean Grade** | **2.94** | **3.37** |

**The table presents a comparison of DWFI rates between the most recent project implementation semester (Spring 2025) and the previous spring semester. While one may say the DWFI rates remain largely unchanged, the results indicate an improvement in the average (Mean) student grade.**

# Sustainability Plan

The courses will always be available at [http://www.myopenmath.com](http://www.myopenmath.com/), where they can be viewed or copied freely.

These materials, including full courses, can also be imported into other learning management systems such as D2L, Canvas, or Blackboard. Platform-specific instructions for importing or integrating the content are provided within [MyOpenMath.](http://www.myopenmath.com)

Instructors can gain access by registering at the link above and using the following Course IDs:

* **Introduction to Linear Algebra:** 273037
* **Statistics for Business and Economics:** 229979

# Future Affordable Materials Plans

* **Create additional ancillary materials to this and other online courses**
* **Create Github Project pages for slide decks with reproducible and forkable materials for this course and other courses of USG**
* **Conduct research about previously created OERs verses baseline works**
* **Disseminate available information by presenting at conferences and webinars**

# Future Scholarship Plans

* **We plan to present at the 32nd Annual HBCU Faculty Development Network Conference: Turning Challenges into Opportunities: Advancing Faculty Development to Serve Dynamic Institutions, Charlotte, NC, Fall 2025, [**[**more information here.**](https://www.hbcufdn.org/annual-conference)**]**

# Description of Photograph

   

From left to right: Dr. Dawit Aberra, Dr. Fesseha Gebremikael, Dr. Ishwari Kunwar and Dr. Sanjeebv Arora.