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Works Being Revised	https://www.affordablelearninggeorgia.org/documents/264_Saber.pdf
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Description	<p>Our goal is to revise the Linear Algebra materials (Class notes and online homework and assessment system using WeBWork, a free online system) created in our previous grant # 264 -round 7. The main concern during the implementation process of the Linear Algebra segment of our grant #264 was the textbook that we used which is based on the theoretical concepts of Linear Algebra. Students who usually signed for this course end up majoring in Applied Sciences or Engineering Fields. We tried our best to adjust the materials that we produced, based on the chosen textbook, with our students' needs and to fulfill the learning goals stated in our syllabus. In conclusion, we found that a choice of an Open Applied Linear Algebra textbook, which was not available at that time, should be used to serve our students' needs. Recently an open Applied Linear Algebra textbook, which we will referred to as a new open textbook, that fits our needs was released as an open educational resource and made available in 2018 [Linear Algebra with Applications – Version 2018 Revision A - by W. Keith Nicholson]. The new text book will achieve a balance among computational skills, theory, and applications of linear algebra which is our aim in teaching our Linear Algebra course. We would like to use this textbook and develop the following materials to make them available to our faculty and any other faculty who seek open resources materials for Applied Linear Algebra Course. Our plan is to develop courseware materials that either zero-cost or low cost to students as indicated below:</p> <p>A. Zero-cost materials: Develop courseware materials that include class notes and online homework and assessment system using WeBwork to match the new textbook and make the course a zero-cost for students.</p> <p>B. Low-cost materials: Instead of using a fully free online homework and assessment system, we will use an affordable system, Lyryx, which cost students \$39.95 per semester. Lyryx is now available and test bank and homework problems were developed based on the new textbook. Lyryx online assessment is affordable and includes a value-added service and support. (https://www.oercommons.org/courses/linear-algebra-with-applications/view).</p> <p>From our experience in using Open resources, we found that in some circumstances and especially with non-remedial courses, a low-cost assessment system may be a better choice. This low-cost system, like Lyryx, usually has similar features offered by a costly commercial system and may be more practical to use than the available free system WeBWork, which lacks some of the advanced features in a commercial system. Moreover, students who had experience using a commercial system in previous courses will prefer using similar system and don't mind paying the \$39.95 cost per semester. This is the reason we are proposing the low-cost option in addition to the zero-cost option. On the other hand, faculty who</p>

prefer to choose zero-cost materials can still use the developed materials in our zero-cost option.

Timeline

March 2018 – April 2018. Review class notes material and develop class notes using the new proposed textbook and matches the course objectives stated in the mathematics department syllabus.

May 2018. Review all WeBWorK assessment materials and develop additional sets to match the sections in the new textbook. This part and the developed class notes will be the zero-cost option package.

June 2018-July 2018. Develop new assessment materials using Lyryx system. This will include homework and quiz problems selected from the new text book. This part and the developed class notes will comprise the low-cost option package.

August 2018. Submit the final report and make all class materials available to University of North Georgia faculty and other compasses faculty who opt to use Open resources in teaching their course.

Budget

Faculty additional time for preparing instructional materials. Two persons on the project will cost \$4000. Additional cost of \$800 will cover two multi-semester cost of the Lyryx system (\$79.95 each), material supplies (papers, copies, printer cartridge), and travel money to present the results in a conference.