



COLORADO RISES:

# Transforming Education Practices

*through Open Educational Resources*



## 2019

The Colorado Department of Higher Education  
Report to the Colorado Commission on Higher Education,  
Joint Budget Committee and Education Committee of the  
General Assembly of Colorado

Statute: CRS 23-1-135



## **COLORADO**

### **Department of Higher Education**

**Prepared and submitted by the OER Council with  
the Colorado Department of Higher Education  
under the Executive Leadership of Dr. Angie Paccione  
Pursuant to the statutory authority of H.B. 18-1331.**

October 2019

1600 Broadway, Suite 2200, Denver, CO 80202

#### **OER Council Membership**

Emily Bongiovanni, Scholarly Communications Librarian, Colorado School of Mines • Meg Brown-Sica, Assistant Dean of Libraries, Colorado State University • Brittany Dudek (Chair) Library Coordinator, Colorado Community Colleges Online • Spencer Ellis, Director of Educational Innovation, Colorado Department of Higher Education • Dustin Fife, Director of Libraries, Western Colorado University • Regan Harper, Director of Networking & Resource Sharing, Colorado State Library • Susan Kendall, Faculty, Arapahoe Community College • Dr. Deborah Keyek-Franssen, Associate Vice President for Digital Education & Engagement, University of Colorado System • Alana Lipscomb, Student Representative, University of Colorado-Denver • Dr. Mark Manzaneres, Chair of Counselor Education, Adams State University • Renee Martinez, Principal Consultant, Colorado Department of Education • Dr. Jonathan Poritz, Director of Center for Teaching & Learning, CSU-Pueblo • Helen Reed, Dean of Libraries, University of Northern Colorado • Dr. Tina Parscal, Associate Vice Chancellor for CCCOnline and Academic Affairs, Colorado Community College System • Christine Pawliuk, Business Librarian, Colorado State University • Dr. Emily Ragan, Associate Professor, Metropolitan State University of Denver

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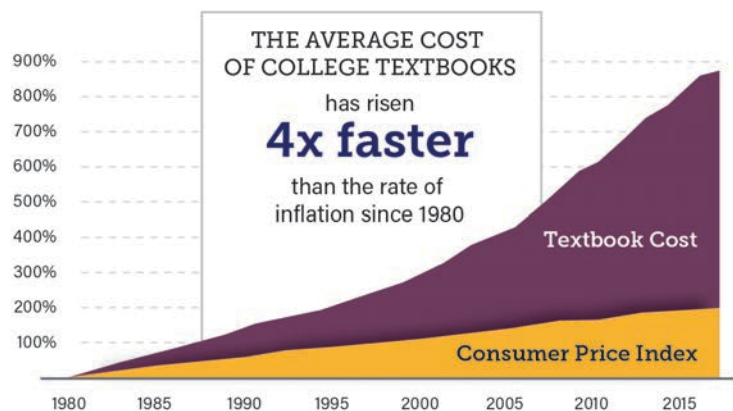
## Executive Summary

Containing costs for students in higher education is paramount to the Colorado Department of Higher Education (CDHE) and the State of Colorado. Although data suggest that earning a postsecondary credential improves individual earning potential and offers robust return on investment, the cost of college or technical school remains a barrier for many Coloradans. To this end, CDHE is building capacity for wide-scale implementation of open educational resources (OER), free or very low-cost teaching and learning materials that live in the open domain. Pursuing this cost containment strategy was borne out of [H.B. 18-1331](#), a bill that created a statewide OER Council and grant program that was informed by a 2017 CDHE [report](#).

What's clear is OER saves students money, but this investment matters beyond the financial benefit. OER and open education practices help educators redesign approaches to teaching through innovative methods, ultimately supporting the transformation of education for the future of learning. The work inspired by the OER legislation is important to educators and Coloradans everywhere.

Over the last half century, textbook and other educational resource prices have increased at an unparalleled rate compared to all consumer goods, contributing to the rising cost of college. In the last decade, the average cost of college textbooks has risen four times faster than the rate of inflation<sup>1</sup>. National organizations, the state of Colorado and Colorado institutions of higher education estimate that college students should budget anywhere from \$900 to \$1,800 for books and course materials in the 2018-19 academic year<sup>2</sup>.

**FIGURE 1:** Consumer Price Index based on Bureau of Labor Statistics data



<sup>1</sup> US PIRG Open 101 Report: <https://uspig.org/news/usp/release-new-report-open-101>

<sup>2</sup> College Board: Average Estimated Undergraduate Budgets 2018-19: <https://trends.collegeboard.org/college-pricing/figures-tables/average-estimated-undergraduate-budgets-2018-19>. State Student Budget Parameters 2018-19: <https://highered.colorado.gov/Finance/FinancialAid/Policy/2018-19-Student-Budget-Parameters.pdf>. Campus websites such as <https://www.csupueblo.edu/student-financial-services/cost-of-attendance.html> and <https://finaid.mines.edu/Cost-of-Attendance-Undergraduate/>.

Since 2018, CDHE has been working to assist public higher education institutions in lowering learning material costs by developing and expanding the use of OER in tandem with the Colorado OER Council, pursuant to H.B. 18-1331.

In the first year of the OER Grant Program, institutional grantees are projecting savings of more than \$3.4 million to the students of Colorado at their respective institutions. This figure represents more than six times the return on the State's initial investment into this initiative<sup>3</sup>.

Open educational resources, practices and philosophy have inspired educators to innovate by reinvigorating curricula, starting free textbook campaigns and more. This is a direct result of two key factors for institutional capacity: 1) State-supported OER grant funding and training opportunities and 2) the willingness of expert educators from all disciplines to continue to innovate their educational practices for the learning and financial benefit of the students. The current state of the open education movement in Colorado is radiant, and the potential is just as bright.

## Key Findings

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Over the past year, CDHE and the OER Council have established a community of learning, practice and innovation. Key findings suggest a meaningful current impact and promising future. Most significantly:

1

**Current performance measures indicate a striking return on the State's initial investment.** In addition to a projected \$3.4 million in student savings from \$550,000 in grant funding—a nearly seven-fold return on investment—awareness and enthusiasm have increased through capacity-building.

2

**National trends and local data suggest OER supports student learning outcomes while lowering costs for students.** The majority of students and faculty who have used both OER and traditional textbooks believe OER are of equal or higher quality, making it increasingly challenging to justify the high price of commercial textbooks.

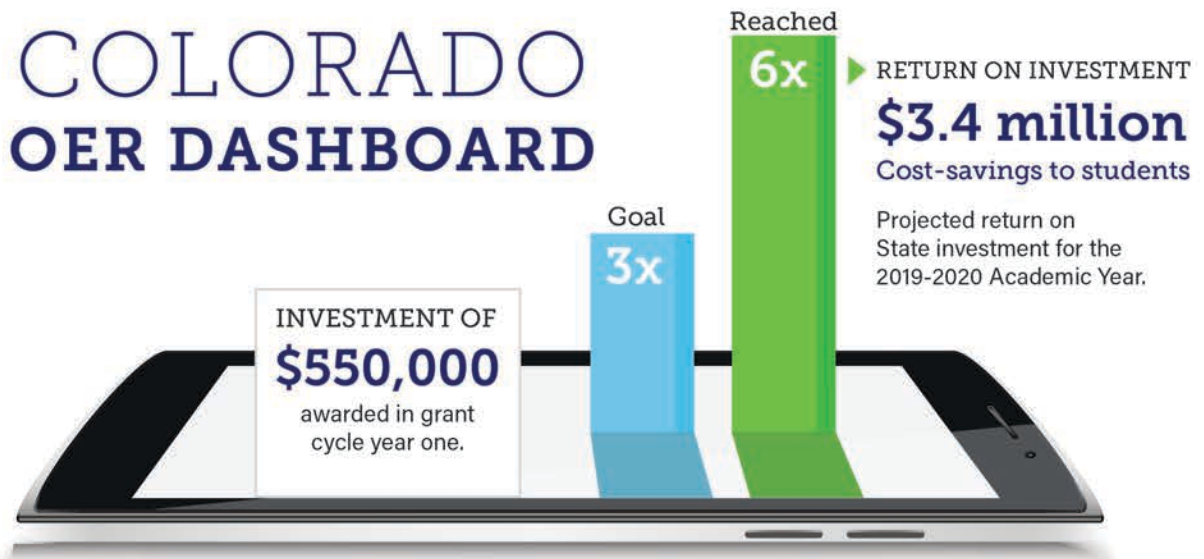
3

**Building capacity and funding creates a statewide ecosystem for successful OER adoption.** Fortunately, in Colorado both funding and support for OER implementation have been coordinated through the work of the OER Council and CDHE, providing the best opportunity for the broadest impact.

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<sup>3</sup> The total allocation for grant monies in the first year of the OER grant program were nearly \$550,000 and are further detailed in the budget and institutional profile sections of this report.

# COLORADO OER DASHBOARD



## NUMBER OF GRANTEES



Colorado OER received the nationally competitive WOW Award

**15**

OER Council members representing 12 institutions and 2 state agencies steering the OER work in Colorado.

**65**

Open Education Ambassadors were trained in year one  
*Representing 25 different institutions inclusive of 2-year, 4-year, technical, public and private as well as K-12 educators.*

**220+**

Attendees at the 2019 OER Conference  
*Education institutions from across the state learned from national experts.*

## Recommendations

Acknowledging the progress so far, the OER Council recommends the following considerations for continued momentum:

### BUILD STRUCTURE

- a. CDHE and the OER Council must continue statewide leadership. This group will serve as the expert advisory stakeholder body and support OER growth and innovative educational practices throughout the state until they become the default at public institutions of higher education in Colorado.
- b. Institutions must encourage and support campus-level infrastructure and staffing dedicated to the implementation and coordination of OER to propel this work at their respective campuses.

### BUILD CULTURE

- a. Intentional efforts to build and foster a strong culture will help sustain open education efforts and prioritize more affordable and innovation education.
- b. CDHE and the OER Council must continue to foster a statewide community to meet their goals of 100 percent awareness of OER promoting improved quality of educational materials and encouraging the default exploration of OER in course design.

### BUILD EVIDENCE

- a. Measuring progress and impacts to student cost-savings, student learning and other dimensions of student success will help quantify and qualify the impact of OER in Colorado education.
- b. Assessing how and why OER are being used will help inform the agenda of both this initiative and the CDHE to meet the goals of supporting all learners in all parts of the state.

*"I shouldn't have to be held back in a class because of an expense. My education should come to me not necessarily free, but easier than it is right now."*

- AIMS COMMUNITY COLLEGE STUDENT



## Why OER?

### Containing Costs

The wide-scale implementation of OER saves students money by helping contain costs. While financing postsecondary education continues to be a barrier for many, research suggests earning a postsecondary credential is still the most viable path for improving an individual's earning potential<sup>4</sup>. Thus, containing costs is essential to expanding opportunities and addressing the needs of Coloradans.

*"Students would benefit from free textbooks because it would be a big burden off our backs. I've experienced not having a book on time because I didn't have the funds and it put me behind in class. Making textbooks free would be a very helpful thing to students."*

- COMMUNITY COLLEGE OF DENVER STUDENT

### Positive Impact on Student Learning Measures

In many cases, traditional student learning and success outcomes and metrics see either no change nor even positive gains when comparing courses that used OER to those that have not. For example, according to a 2017 study<sup>5</sup>, OER

- Addresses affordability, completion, attainment gap concerns and learning
- Improves end-of-course grades
- Decreases DFW (*D, F, and Withdrawal letter grades*) rates for all students
- Improves course grades and decrease DFW rates at greater rates for students who receive Pell grants, part-time students and populations historically underserved by higher education.

More recently, a meta-analysis on OER efficacy indicates that, with minor limitations, use of OER saves students money without decreasing their learning. Researchers note that 1) more than 95 percent of published research indicates OER does not lead to lower student learning outcomes, and 2) most students and faculty who have used both OER and traditional, more expensive textbooks believe OER are of equal or higher quality. Given this research, it is increasingly challenging to justify the high price of textbooks<sup>6</sup>.

In Colorado, two state OER grantees that have implemented OER in place of commercial textbooks have reported no negative impact on student success measures. Both Pueblo Community College (PCC) and Pikes Peak Community College (PPCC) have quickly replaced costly textbooks with grant-funded OER options in summer courses with no negative consequences to student success<sup>7</sup>. This small sample size localizes the national trends and indicates a promising wide-scale impact for fellow Colorado institutions.

<sup>4</sup> "Colorado Department of Higher Education's Annual Return on Investment Report": [https://higherred.colorado.gov/Publications/Reports/Legislative/ROI/201907\\_ROI.pdf](https://higherred.colorado.gov/Publications/Reports/Legislative/ROI/201907_ROI.pdf)

<sup>5</sup> "The Impact of Open Educational Resource on Various Success Metrics": <http://www.isetl.org/ijtlhe/pdf/IJTLHE3386.pdf>.

<sup>6</sup> "Open educational resources, student efficacy, and user perceptions: a synthesis of research published between 2015 and 2018": [https://link.springer.com/epdf/10.1007/s11423-019-09700-4?author\\_access\\_token=-ddomufEBgUef598h7OMr\\_e4RwIQNchNBiy7wbcMAY7Pc0s0IGF-oGij1mZ6ESdUvOUJiqYi22TE1JccfmQDtOsHp4hmgFRolpIHETD9LetuM3KNAZkDtGVAgFQhQkDE4zH7K4ww4TJh9PPUIBmuMA%3D%3D](https://link.springer.com/epdf/10.1007/s11423-019-09700-4?author_access_token=-ddomufEBgUef598h7OMr_e4RwIQNchNBiy7wbcMAY7Pc0s0IGF-oGij1mZ6ESdUvOUJiqYi22TE1JccfmQDtOsHp4hmgFRolpIHETD9LetuM3KNAZkDtGVAgFQhQkDE4zH7K4ww4TJh9PPUIBmuMA%3D%3D)

<sup>7</sup> PCC and PPCC data reported by each respective institution as required in the July 2019 OER Grantee progress report requirement. Note, these are the only institutions reporting full implementation of select courses in the summer 2019 term, hence the small sample size. Most institutions are scaling implementation for fall 2019 and spring 2020 terms with the OER grant funding from year one. Metrics and impact will be reported in accordance with the Grant Program requirements and timeline.

## Innovations in Educational Practices

Moreover, open education can benefit learners and educators in ways beyond cost savings by allowing for further innovations in teaching, learning and collaboration. Current and future trends suggest open educational practices can also empower faculty to embrace diversity and advance equitable approaches in educational settings. They even allow for students to play a role in shaping the education they are experiencing<sup>8</sup>. Such approaches include the co-creation and localization of curriculum and open pedagogical approaches to classroom facilitation and instruction—all hallmarks of the open education movement. In the first year of the OER grant program, at least one institution is pursuing this kind of student-centered project. Both faculty and students have voiced their intrigue and engagement around this approach to teaching and learning<sup>9</sup>.

## Alignment with State Goals

OER are a notable, data-supported, emerging best practice in higher education, and wide-scale use and implementation of OER aligns with the goals put forth in the statewide plan for higher education. In CCHE’s master plan, *Colorado Rises: Advancing Education and Talent Development*, the scaled implementation of OER aligns with several strategic goals, especially Goal Four: Investing in Affordability and Innovation<sup>10</sup>. Moreover, as part of its broader discussion of responsive learning systems, the [Colorado Education Leadership Council’s](#) (ELC) 2018 report cites the expansion of OER directly as a strategy for leveraging technology to provide access to high-quality educational opportunities<sup>11</sup>. Finally, with cost containment at the heart of Colorado’s higher education agenda, it is clear OER provide an opportunity to meet the needs of individual students while maximizing state investment.



As the research concludes, both national and local findings demonstrate the value of OER and their relevance to meet the many challenges facing higher education institutions and students today. Thanks to strong state investment, the scaled use and implementation of OER and open educational practices will continue to contain costs and drive innovation.

<sup>8</sup> “Expanding the Scope: Illustrating the Impact of OER”: <https://sparcopen.org/news/2019/expanding-the-scope-illustrating-the-impact-of-oer/>

<sup>9</sup> Instructors reported this strategy at a recent OER conference while students reported their participation at the CDHE’s meeting with the Community College System’s State Student Advisory Council meeting.

<sup>10</sup> “Colorado Rises”: <http://masterplan.highered.colorado.gov/goal-4-invest-in-affordability-and-innovation/>

<sup>11</sup> “The State of Education”: <https://drive.google.com/file/d/16tofb4KjSaCYqfPKI6w3PnDKsY83FDyL/view>

## Student Perspectives

The perspectives of students in the 2017 report led to resounding support for a statewide OER initiative. With the majority of survey respondents identifying as students, more than 89 percent of people surveyed in 2017 agreed with this statement: *“Textbook costs have become a serious affordability barrier to students attending Colorado’s colleges and universities.”* Since then, and as an outcome of the resulting legislation, campuses continue to survey students formally and informally on their perceptions of textbooks and associated costs.

At Western Colorado University, faculty who had implemented OER in their course as a result of the grant funding were asked *“How did your students respond to OER when you told them what you were doing?”* Responses from instructors were candid and are captured below:

*“They were very positive. I told them they were saving \$90 and mentioned that they could do the math to calculate savings for 55 students. One student...told me he was glad two of his professors were using OER materials.”*

*“Surprise; almost universal expression of being pleased with the option (when polled).”*

*“They seemed excited to not have to spend money on a text<sup>12</sup>.”*

*“They seem quite grateful. One student emailed me recently and said, ‘I certainly appreciate the downloadable files to help save costs!’”*

*“There was an audible sigh of relief when I announced this in class.”*

Qualitative narratives submitted by community college students as part of a class assignment include the following powerful anecdotes:

*“I think that the option not to pay for textbooks at this college would be beneficial and helpful. The cost for textbooks for only two classes was pretty overwhelming and ridiculous...even for USED BOOKS. They were so expensive that I looked for an alternative, which I did through Amazon...Though I did find a cheaper alternative, it was still money that was taken away from rent, groceries, and tuition that I pay every month.”*

**-CCD Student**

*“As a student that is a Dreamer, without assistance, depending solely on scholarships, I think not having to pay for books in English class would be beneficial. For one, English is one of the courses that every student needs to take, therefore buying a new book every semester because it is a new edition is unnecessary especially if only a few changes were made.”*

**-CCD Student**

<sup>12</sup> Source: July 2019 CDHE OER Grantee progress report.

Several grantees from the CDHE OER Grant Program have also engaged students in various feedback activities in the libraries. For example, students from a public four-year institution, when asked what they would spend their money on if they did not have to use it for costly textbooks, reported such competing priorities as food, healthcare, and childcare. Colorado State University-Pueblo, for example, recently participated in the #RealCollege Survey<sup>13</sup>, a survey administered by Temple University, and found the following Basic Needs Insecurity Rates:

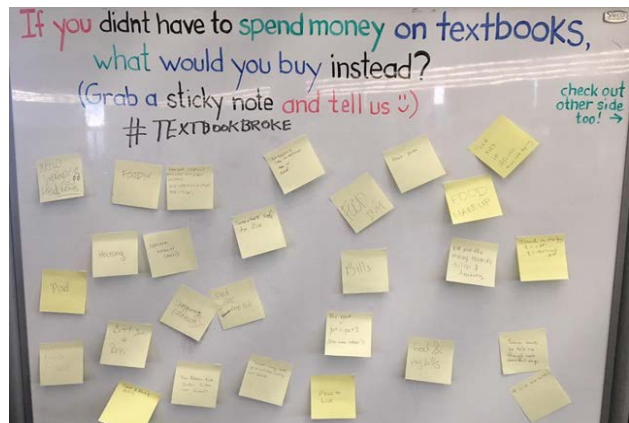


Overall, 65 percent of students at CSU-Pueblo experienced at least one of these forms of basic needs insecurity in the past year<sup>14</sup>.

The images here show a striking version of the informal survey conducted by yet another group of higher education staff, who have taken the initiative to engage students in this exercise, to demonstrate the importance of this topic. Moreover, the word cloud demonstrates responses to a similar question at another four-year public institution, with the most common answers appearing in larger font. In sum, this topic is quite important to students whose competing priorities including funding food and other essential personal expenses.

The student perspectives on this matter are essential to the story of OER and are the primary force behind this movement. This is because OER saves student money while also providing them high-quality learning experiences. Containing costs and improving learning by leveraging OER is a major motivation for scaling this practice in higher education. For this reason, the Department plans to continue to engage students in the dialogue to help inform current practices, and future decisions. This includes holding two open meetings for students to submit feedback on the OER initiative and voice their suggestions for future work in this space. The convenings will be held in fall 2019 and documented in future reports.

**FIGURE 2:** Word cloud and sticky note responses documenting students' competing financial priorities.



<sup>13</sup> College and University Basic Needs Insecurity: A National #RealCollege Survey Report: [https://hope4college.com/wp-content/uploads/2019/04/HOPE\\_realcollege\\_National\\_report\\_digital.pdf](https://hope4college.com/wp-content/uploads/2019/04/HOPE_realcollege_National_report_digital.pdf)

<sup>14</sup> Source: July 2019 CDHE OER Grantee progress report.

## Background

### Legislation and Report from 2017

In 2017, to address the issue of textbook/course material affordability and gauge interest for OER in Colorado, the legislature and the Governor, through [S.B. 17-258](#), called for the creation of a statewide Open Educational Resources Council charged with developing recommendations for an OER initiative serving higher education in the state of Colorado. The 2017 report on OER in Colorado found overwhelming support for further exploration and implementation of OER in the state, particularly from the student respondents who comprised a significant fraction of survey respondents. Based on the findings of the statewide survey, a broad survey of the national landscape, and expert opinion informed by data, the Council and Department made the following recommendations in their 2017 report<sup>15</sup>:

#### Scale the use of OER through targeted grant funding, including:

- Institutional grants to campuses for establishing an OER task force, setting their own OER priorities and disbursing grants in support of these priorities; and
- Individual or small-group grants for faculty and staff, especially at institutions without an institutional grant or OER initiative, to support OER creation, adoption and promotion.

#### Support knowledge-sharing, professional development, and community-building by offering opportunities such as:

- Regular virtual meetings of selected OER interest groups; and
- An annual OER conference of and for stakeholders from around the state, with keynotes and workshops on specific practical issues.

#### Establish enabling structure and staffing at the state level with:

- A standing State OER Council to set statewide policy, oversee grant programs and act as conference organizing committee, among other duties;
- A full-time staff member in the CDHE to support the above activities and to maintain information resources such as websites and collateral materials; and
- An annual report to the Legislature describing COER activities and reporting on various metrics of success.

The report, containing the above recommendations, was presented to the Joint Budget Committee (JBC), Education Committee and Colorado Commission on Higher Education for approval prior to considering legislative action. The overwhelming consensus from these governing authorities, as well as the institutions of higher education, was in favor of pursuing the recommended statewide OER initiative.

<sup>15</sup> Report to the Joint Budget Committee and The Education Committees of the General Assembly Open Educational Resources in Colorado November 2017: [https://highered.colorado.gov/Publications/Reports/legislative/OER/OER\\_Nov2017.pdf](https://highered.colorado.gov/Publications/Reports/legislative/OER/OER_Nov2017.pdf)

## Legislation from 2018

Ultimately, the bill was sponsored by Representatives Rankin and Young and Senator Lundberg. In late April of 2018, [H.B. 18-1331](#) was signed by the Governor. Consistent with many of the recommendations of the Council, this bill appropriated funds for the work of the OER Council including a dedicated FTE from the Department, continued existence of the OER Council and required appointment of Council members through fall of 2021. Dedicated funds for the OER Council’s work and the statewide grant program were laid out through 2020, with the overall aim of increasing affordability of higher education in Colorado. Officially, the bill’s purpose was stated as “expanding the use of open educational resources at public institutions of higher education, and, in connection therewith, creating the Colorado open educational resources council, creating a grant program to support the creation and use of open educational resources, and making an appropriation<sup>16</sup>.”

As part of executing the identified responsibilities of this legislation by building a culture around open education as a best practice in Colorado institutions of higher education, Department staff have set forth an agenda to provide staff and faculty with professional development and engagement opportunities at the state level.

## OER Grant Program

### Summary

Perhaps most notably from the 2018 legislation, the statewide grant program allocated \$500,000 for the first-year grant cycle for public institutions of higher education in Colorado to initiate and expand the use of OER. The budget was later adjusted to award nearly \$550,000 worth of grants to institutions, with the Council and Department staff deciding this increased allocation of resources to the campus would offer a larger return on investment. Broadly, the OER Council outlined a grant program to encourage participation in its first year and to elevate work around OER with the intent of fostering collaboration at the institutional and state levels.



#### THE PRIMARY PURPOSES AND OUTCOMES OF THE GRANT PROGRAM ARE TO:

- Address affordability
- Elevate OER
- Encourage innovation
- Align institutional and departmental actions with the CCHE Master Plan

<sup>16</sup> Higher Education Open Educational Resources: <https://leg.colorado.gov/bills/hb18-1331>

## Structure of Request for Proposals and Key Dates

As the organizing body, the OER Council in conjunction with Department staff, outlined the structure of the Request for Proposals (RFP) and timeline for the first grant cycle. To expand reach and compound the grant fund impact in year one, the Council set broad parameters in the RFP to encourage proposals and continue to elevate the conversation around OER. The swift work of the Council resulted in a launch of the grant in early fall 2018, followed by several information sessions for interested applicants, a comprehensive review period and a refined list of recommendations for CCHE consent at the first 2019 meeting. Important dates throughout the process for grant cycle year one included the dates on right.

The RFP was structured in such a format to encourage anything from professional exploration and development with a focus on OER to incentives for creation, adaptation, and/or adoption of OER by faculty, staff, or administrators in institutions of higher education. For this first-year grant cycle, there are two levels of grants, primarily organized by targeted applicant pools and associated requested dollar amount.

### GRANT TYPES

1

Those from public institutions of higher education to support and expand creation, adoption, adaptation, and promotion of the use of OER across the institution and among multiple institutions; ranging from **\$10,000-\$99,999**

2

Those from faculty and/or staff of public institutions of higher education, individually or in small groups, to support the creation, adoption, adaptation, and promotion of OER for specific courses, disciplines or programs; ranging from **\$250-\$4,999**



## YEAR ONE

### Grant Cycle Dates

**2018**  
KEY DATES

- September 25**  
RFP opened to public
- September 27 & October 1, 4, 10**  
Informational sessions for applicants
- November 14**  
RFP closed
- November 17**  
Review period open
- November 29**  
End of grant review period
- December 6**  
Discussion item at CCHE meeting

**2019**  
KEY DATES

- February 6**  
Consented and approved by CCHE
- March 4**  
Funds transferred to grantees
- May 30-31**  
OER conference and training
- July 30**  
Progress report due date for recipients

**2020**  
KEY DATES

- May 15**  
Final report and unused funds returned

## Open Licenses and Accessibility

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Pursuant to statute, priorities were clearly noted in the RFP and taken into consideration during the process of holistic proposal reviews. As terms of receiving the funds to support their OER projects and initiatives, grantees have agreed to:

1. openly license and share, under the broadest possible license, any open educational resources developed or adapted using the grant;
2. post new or adapted open educational resources to an open repository in editable file formats or with source code; and
3. comply with the federal "Americans with Disabilities Act of 1990," 42 U.S.C. sec. 12101 et seq., as amended, to enable persons with disabilities to access the open educational resources developed or adapted using the grant.

These points of emphasis allow for the broadest possible foundation for sharing useful material in an inter-institutional approach. Open licensing and accessibility were reiterated as points of emphasis for grantees, both during the proposal and review process, and continuing through the professional development activities sponsored by the CDHE. For example, sessions at the statewide trainings and conferences addressed both accessibility and open licensing to help develop a better understanding and addressing these topics for educators pursuing OER<sup>17</sup>. Furthermore, the CDHE and several campuses have continued dialogues with national organizations, specifically the Open Textbook Network (OTN), to propose a working group on accessibility in OER<sup>18</sup>. Undoubtedly, these priorities remain intact for the second year of grant funding, exemplifying the importance of these topics in pursuing the OER initiative.

## Year One Grantees

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In year one of the OER Grant Program, twenty (20) project proposals were granted funds to pursue various OER initiatives at their respective campuses. This includes fifteen (15) institutional-level initiatives as well as five (5) small group projects. In addition to these grantees, the OER Council and CDHE determined to fund three (3) institutions by means of providing funds to pursue professional development and statewide training opportunities related to OER specifically. This adjustment was a result of the decision to expand the initial year of funding to as many campuses as possible, including those who did not receive an award for their initial proposal.

Moreover, it should be noted in this section that many original proposal responses to the RFP from the campuses articulated larger sums of money for their grant projects. However, again to expand the reach of the first years' worth of funding, many proposals were meticulously and intentionally reviewed and suggested for revision in order to avoid redundancy of OER development for common, statewide needs, and to spread as much funding across the state as possible. This is evidence that continuation of the OER Grant program for the next several years is not only a good idea, is necessary to meet the potential visions and intent of the educators and institutions in the state of Colorado.

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<sup>17</sup> Refer to conference and training agendas in appendix.

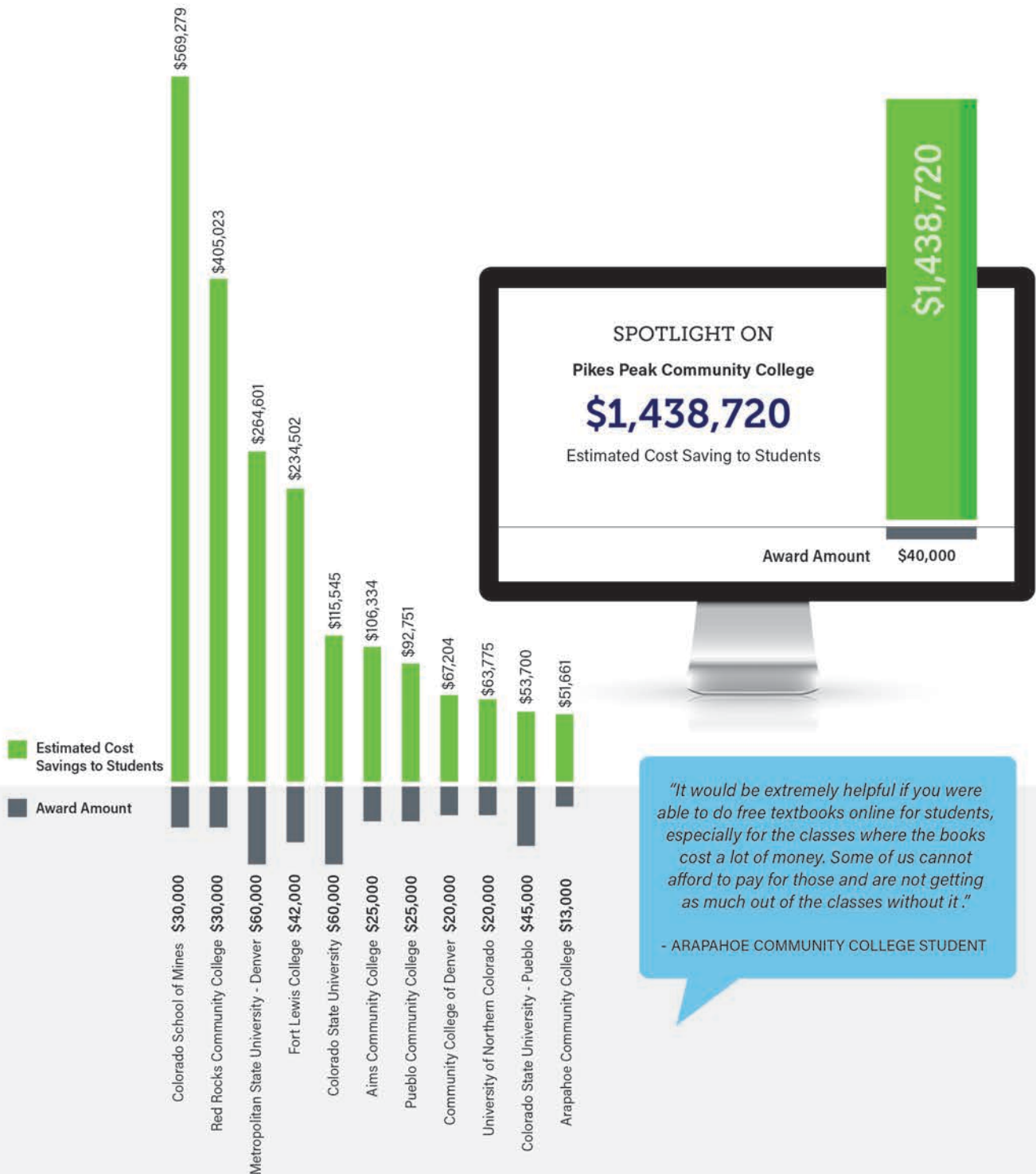
<sup>18</sup> Note, through the CDHE, Colorado has become a consortial member of the OTN, affording educators in our state training opportunities and affiliation with national memberships to address important issues such as accessibility in OER.



As mentioned previously, preliminary implementation of projects funded by the OER Grant Program have significant projected impact in aggregate cost-savings for students. Institutional grantees are projecting savings of more than \$3.4 million to the students of Colorado at their respective institutions. This number represents more than six times the return on the State’s initial investment (ROI) into this initiative.

**FIGURE 3:** OER Grant Program savings to students as reported by institutional grantees

### OER GRANT PROGRAM PROJECTED STUDENT SAVINGS



## Year One Grantee Profiles

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This first year of grant funding for OER in Colorado yielded creative projects ranging from several academic disciplines and approaches to open education. For example, the Red Rocks Community College project enables RRCC students to opt into an OER pathway to complete an AS or AA degree with 75 percent of the courses using OER material at zero-cost. While an engineering faculty member at Colorado State University led the collaborative development of an OER textbook for Engineering Mechanics Statics, a high-enrollment engineering gateway course. These two projects represent only a fraction of the varied approaches to OER work from the grantees, and a comprehensive overview of projects is included in the appendix of this report<sup>19</sup>. Diversity in approach to OER implementation and subject matter expertise has strengthened the initiative, with the CDHE providing intentional means for connecting faculty and staff to the current work being done by peers. The vision is for the CDHE to continue to serve as a hub for coordinating and communicating efforts of the campuses pursuing OER for the next several years. This includes the continued potential of identifying and communicating OER for general education and Guaranteed Transfer (GT) Pathways courses, concurrent enrollment courses, and high enrollment courses, all of which are prioritized in the Grant Program request for proposals (RFP).

## Year One Grant Progress

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As noted in the timeline, grantees were required to report on their progress toward goals in July 2019. The institutional grantees were swift in their implementation of their outlined OER projects, with many replacing costly materials for students in the fall 2019 and spring 2020 terms<sup>20</sup>. This attentive and agile response to the OER grant program exceeded the Department's expectations in terms of making an impact to student cost-savings from a short-term perspective. The OER Council and CDHE also are planning efforts for sustainable supports and approaches to lasting impacts of open education and the proliferation of OER in Colorado. This includes future strategic planning and goal setting, in alignment with the priorities of both the CCHE and State.

The 2017 OER report outlined how many similar statewide initiatives had returned three times the invested funds in cost-saving to students through replacing expensive courses materials and texts. Thus, the OER Council and CDHE had articulated a similar ambition in terms of return on the State's investment. In Colorado, we are now projecting to save students at least \$3.4 million dollars upon preliminary implementation<sup>21</sup>. This measure is often cited as a measure for the general financial impact of OER in a scaled approach to the work, so it is a positive measure for both institutions and students in Colorado.

Pursuant to HB18-1331 the CDHE and OER Council have documented key metrics, though the grant program and OER initiative are still in nascent stages. In this preliminary reporting stage, several lag metrics cannot yet be reported, but are planned to be measured in future reporting in conjunction with the CDHE's research division. Metrics with current data and projections available include the list on page 18.<sup>22</sup>

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<sup>19</sup> See Appendix A for a summary of OER grants projects from 2018-2019

<sup>20</sup> Only two grantees reported implementation for the summer 2019 term, allowing for further detailed reporting on their course level data pertaining to pass rates of students using OER.

<sup>21</sup> Projections are reported by grantees and aggregated by Department staff. Various levels of implementation

<sup>22</sup> Primary metrics to inform this list include the reports submitted by the OER Grantees during the July 2019 Progress Report. More comprehensive measures will be submitted at the end of the grant cycle, in May of 2020 and included in future OER reports from the CDHE.

**Metrics with current data and projections**

<b>Estimated amount of student savings that resulted from using the open educational resources</b>	Preliminary aggregated cost-savings to students are projected at <b>\$3.4 million statewide as a result of grant-funded OER</b> and an additional \$1.6 for non-grant funded OER usage <sup>23</sup> .
<b>Measures of the effectiveness of the grant project</b>	Preliminary effectiveness measures of the grant project include number of public institutions participating in the grant program (19/31 eligible public institutions), number of Open Education Ambassadors trained to further OER efforts in their communities (65 representing 25 different institutions) and number of courses addressed (100) as well as students reached (23,500) by this initiative.
<b>Number of students affected by open educational resources</b>	Preliminary aggregated student enrollment for OER courses utilizing grant funding total <b>23,958<sup>24</sup> statewide</b> . Additionally, non-grant funded OER courses reported by institutions on a voluntary basis include an additional 7,742 enrollments for a total of 31,700 enrollments overall.
<b>The degree to which all public institutions of higher education are adopting open educational resources support programs and ensuring universal awareness of open educational resources among faculty and students;</b>	The extent to which all public institutions are adopting OER can be a difficult measure because instructors are not required to report (and in some instances do not fully realize when) when they are using OER. However, it can be said that awareness of OER has grown among institutional leadership as all chief academic officers have been briefed on the initiative and all have been encouraged to form institutional committees or taskforces. Thus, when using institutional committees as a proxy for intentional exploration and adoption of OER, there are gains in the measures of statewide commitment to OER as there has been at least a <b>9% increase</b> in the number of institutional committees or taskforces <sup>25</sup> .
<b>The number and percentage of the courses offered by the public institutions of higher education that use open educational resources as the primary resources for the course;</b>	Preliminary aggregated number of courses offering OER as a result of the grant program represent a fractional percentage of courses offered by the public institutions in Colorado, though, a more complete percentage should be available upon completion of the grant cycle when all OER projects are required to submit complete reports (May 2020).
<b>The open educational resources created and shared by grant recipients;</b>	Upon completion of the grant cycle, OER grantees shall report the location of OER developed through the grant program to the CDHE
<b>The number of open educational resources revised (adapted) and adopted by grant recipients</b>	Upon completion of the grant cycle, OER grantees shall report the total number of OER revised and adopted through the grant program; a current count approximates <b>100 OER</b> revised and/or adopted by grantees, with a more complete accounting to come at the end of the grant cycle.
<b>For public institutions of higher education that receive a grant or that employ faculty or staff that receive a grant, the course enrollment, completion, and pass rates for courses that use open educational resources compared to courses that do not use these resources</b>	Upon receiving the Grantee Progress Reports to inform much of this report, only two campuses were able to report on this metric. <b>Both campuses reported marginal increases or no negative changes in student success metrics<sup>26</sup>.</b>

<sup>23</sup> Primary methodology for calculating cost-savings to students is reported as the cost of course materials replaced multiplied by the number of students enrolled.

<sup>24</sup> Total, aggregate number of enrollments.

<sup>25</sup> Percentage increase based on newly reported institutional committees from baseline assessment in 2017 report.

<sup>26</sup> PCC reported a .3% increase in pass rates for their summer OER course while PPCC reported 1% increased in DFW rates for two courses.

## Year One Grant Analysis

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In the initial reporting of progress, coordinated by the CDHE, grantees were required to identify successes, challenges, and barriers to the current work of their local OER initiatives and projects. A qualitative review of this self-assessed feedback to the grant administrators revealed the following themes.

**Support in the form of resources, training and grants are integral to the success of a scaled approach to OER.**

**Some are still resistant to change and need further support as they explore OER as a potential fit for their curriculum.**

**Incentives for participation in OER make for the greatest impact.**

The CDHE and OER Council have gleaned the feedback from the first cohort of grantees, as well as those who have participated in other statewide activities, to help inform iterative improvement of both the grant program and all associated activities. The outlined feedback from the campuses, coupled with that of the Commission, shall guide the CDHE staff and OER Council in future revisions to processes, offerings and structure. Our goal is to ensure a widespread and profound impact from pursuing OER for Coloradans.

## Statewide Training and Development Activities

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Over the course of the last year, the CHDE and OER Council facilitated and coordinated professional development opportunities for faculty, staff and educational administrators as prescribed in legislation. The imperative for appropriately preparing educators to pursue OER and open educational practices in their disciplines derives from a holistic approach to providing resources as well as supports for large scale change in approaches to educational resources and implementation of OER.

Over the course of the last year, and in addition to the Grant Program, several activities were executed by both the Department staff and the Colorado OER Council in alignment with the innovation and capacity-building goals inspired by statute. As a reminder, the OER Council is the primary steering committee for OER action at the statewide level in Colorado. Broadly, the Department and Council have provided ongoing training through several means. This includes remotely available development sessions, intensive professional training, traditional conference learning and peer-led best practice demonstrations of approaches to OER.

### Open Education Week

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In collaboration with many from across the state, the OER Council hosted several professionally focused activities, beginning with [Open Education Week](#) (OEWeek) in March of 2019. OEWeek is a global interactive established in 2013 to “raise awareness and showcase impact of open education on teaching and learning worldwide.” During this week, national and local experts highlighted practical implementation workshops as well as strategic-level sessions as an offering to staff, faculty and administrators in Colorado. See appendix for a comprehensive list of activities. All activities were recorded and archived on the [Department YouTube channel](#) for future utilization and access. Live attendance for the week totaled nearly 100 participants, with that number growing through the archived presentations.

## Faculty & Staff Training

Next, as a result of the budget allocation associated with this initiative, the Department gained membership with the [Open Textbook Network](#) in March, which in turn led to the first statewide training with this organization in May of 2019 (see Attachment C). Approximately 65 attendees engaged in this session, which aims to continue scalable OER implementation, as part of the launch of the Department's [Open Education Ambassadors](#) program. The Ambassadors are now representatives who have the capacity and knowledge to train other faculty and staff on their campus to help expand the use of OER in various parts of the institutions. Ambassadors receive ongoing support and training from the CDHE to continue to build a network of support and capacity for scaling OER throughout the institutions of higher education. In the first cohort, representatives<sup>27</sup> from public, private, two-year, four-year and technical schools attended the training. Another cohort of Ambassadors are scheduled to be trained in October 2019.



**FIGURE 4:** More than 65 faculty and staff attended the Open Education Ambassadors training with the Open Textbook Network in May 2019.

<sup>27</sup> See appendix for roster of current Open Education Ambassadors in Colorado.

## Statewide OER Conference

Following that training, the Department hosted the first Colorado OER Conference at Lowry Campus (see Attachment E). More than 220 attended the event to hear speakers and experts from Colorado and across the country. The Department was also fortunate to have the executive director, governor and local congressman participate in the event as they led the morning charge preceding the opening plenary. This comprehensive professional development opportunity leveraged the OER budget to provide hundreds of Colorado educators with a comprehensive look at best practices, growing trends, and trainings for OER implementation in higher education. See a complete agenda in the appendix.

As a result of attending the conference, 87 percent of attendees reported they developed a deeper understanding of OER, including practical techniques and strategic approaches to implementation and/or adoption, while more than 91percent improved my awareness and understanding of OER and open education as a movement for achieving student success in education<sup>28</sup>. This event was a successful means by which OER capacity building took place in Colorado this year, and it can also be said the symbolic leadership demonstrated by elected officials at this event conveyed the important role and potential of OER in Colorado’s education system. The hope is that the combined financial and symbolic support for this work continues in order to make the biggest impact possible.



**FIGURE 5:** Attendees at OER conference. From right to left: Representative Larson, Congressman Neguse, Representative McCluskie, Chancellor Garcia, Governor Polis, Executive Director Paccione, and OER Council members.

<sup>28</sup> Source: 2019 OER Conference Feedback Survey.

## Staff & Council Recommendations

In an assessment of the landscape of open educational resources and current system or statewide movements, the Department commends the work of the OER Council as progressive, unifying and motivating for change in the future. In fact, beyond the CDHE, the OER Council has been commended nationally for its work in OER as they were recently awarded Western Interstate Commission for Higher Education Collective for Educational Technology (WCET) Outstanding Work Award (WOW Award). At the least, this recognition acknowledges both the CDHE and OER Council's commitment to OER work in Colorado and solidifies the impact a unified initiative can have.

As highlighted previously, the OER Council and CDHE recommend the following considerations for continued momentum regarding OER in Colorado:

### BUILD STRUCTURE

- a. CDHE and the OER Council must continue statewide leadership. This group will serve as the expert advisory stakeholder body and support OER growth and innovative educational practices throughout the state until they become the default at public institutions of higher education in Colorado.
- b. Institutions must encourage and support campus-level infrastructure and staffing dedicated to the implementation and coordination of OER to propel this work at their respective campuses

### BUILD CULTURE

- a. Intentional efforts to build and foster a strong culture will help sustain open education efforts and prioritize more affordable and innovation education.
- b. CDHE and the OER Council must continue to foster a statewide community to meet their goals of 100 percent awareness of OER promoting improved quality of educational materials and encouraging the default exploration of OER in course design.

### BUILD EVIDENCE

- a. Measuring progress and impacts to student cost-savings, student learning and other dimensions of student success will help quantify and qualify the impact of OER in Colorado education.
- b. Assessing how and why OER are being used will help inform the agenda of both this initiative and the CDHE to meet the goals of supporting all learners in all parts of the state.

## Colorado OER Council

**FIGURE 6:** 2018-19 Colorado OER Council Membership appointed by the CDHE Executive Director



## Acknowledgments

Thank you to the following government leaders, staff members and collaborators for their ongoing support with this project!

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Megan McDermott, Director of Communications  
Chloe Mugg, Legislative Liaison  
Kim Poast, Chief Student Success & Academic Affairs Officer  
Chris Rasmussen, Director of Academic Affairs  
Lindsay Sandoval, Communications & Social Media Strategist  
Michael Vente, Sr. Director of Research  
Katie Zaback, Sr. Policy Director



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### Image Credits

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**FIGURE 1:** Consumer Price Index based on Bureau of Labor Statistics data

Source - [Inflation-adjusted Textbook Pain Multiplier for Decision-Makers](#) by [Jonathan Poritz](#) is licensed under [CC BY-SA 4.0](#)

**FIGURE 2:** Word cloud and sticky note responses documenting students' competing

Source - University of Northern Colorado Libraries

**FIGURE 3:** OER Grant Program savings to students as reported by institutional grantees

Source - MSU-Denver

**FIGURE 4:** More than 65 faculty and staff attended the Open Education Ambassadors training with the Open Textbook Network in May 2019. Source - July 2019 OER Grantee Progress Reports

**FIGURE 5:** Attendees at OER conference.

Source – Colorado Department of Higher Education

**FIGURE 6:** 2018-19 Colorado OER Council Membership appointed by the CDHE Executive Director

Source – Colorado Community College System

## Appendices

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### Appendix A - Summary of OER Grantee Projects 2018-2019

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#### Colorado Department of Higher Education: Summary of OER Grants 2018-2019

The below list summarizes award amounts and projects pursued by Colorado institutions with grant funds from the CDHE. The scope and intent of projects vary as this list includes institutional and small group level grants that received support in the first year of the grant cycle.

Source: CDHE OER Grantee Progress Reports 2018-19 *Summaries taken from 2019 grantee progress reports.*

#### **ACC: "Access to Open Educational Resources (OER) Fosters Equity and Student Success" \$13,000.00 Institutional Grant**

Funding from the Colorado Department of Higher Education is supporting implementation of OER materials within four high- impact, high-enrollment, and/or high materials cost classes. The courses adopting or revising OER materials are ENG 121 English Composition I, ECO 202 Principles of Microeconomics, PHY 105 Conceptual Physics with Lab, and COM 115 Public Speaking. Specifically, funds are earmarked for faculty incentive funding, department training, fringe benefits, and travel for a subject matter expert to provide one-day training for the entire campus community.

*OER Courses as a result of the grant: COM115, ECO202, ENG121, PHY105*

#### **Aims: "Aims Community College's OER Tactical Goal Initiative: Building F2S (Free-to-Student) Courses" \$25,000.00 Institutional Grant**

Aims OER Tactical Goal Initiative is informed by the objective of improving access and retention by providing a level playing field for the College's diverse student populations. Understanding that students stand the best chance of persisting and succeeding in a college class when they have the materials and resources necessary for the course from day-one, the emphasis in this grant project is on incentivizing faculty who teach Guaranteed Transfer (GT), high DFW, high enrollment, multi-sections, and CTE program courses to replace commercial textbooks with OERs or other free-to student materials.

*OER Courses as a result of the grant: ART110, BIO112, COM115, COM220, GEO106, HUM122, LIT115, MAN102, PSY226*

#### **CCOnline: "Colorado's Top 40: Curating OER Content for the Top 40 GT Pathway Courses" \$25,408.00 Institutional Grant**

CCOnline has identified the top 40 CCCS GT pathway courses by enrollment for academic year 18 and is curating the available OER content to the CCNS topical outline. These curation guides will be made publically available to all.

#### **CCD: "Expanding OER to Make Learning Affordable" \$20,000.00 Institutional Grant**

This project focuses on OER development for BUS 216: Business Law, ART 110: Art Appreciation, and COM 115: Introduction to Communications.

*OER Courses as a result of the grant: ART110, BUS216, COM115*

**CSM: "Open Mines: Deploying Open Educational Resources (OER) Development at Colorado School of Mines" \$30,000.00 Institutional Grant**

The Colorado School of Mines' OER Steering Committee developed a four-phase plan to develop a successful and impactful OER program at Mines to raise awareness, unite campus commitments, deliver education and resources, and incentivize individual faculty members. This project includes an internal grant program to incentivize faculty to adopt, adapt, or create OERs that are high quality, accessible, sustainable, and can be integrated into the existing or newly developed courses.

*OER Courses as a result of the grant:* CBEN210, CBEN304, ENGY200, GEGN466, GEGN467, HASS100, MATH225, MATH235, MATH500, MEGN200, MEGN301, MLGN598, PHGN100

**CSM: "Supporting STEM Students with OERs: Creating an Online Technical Communication Center" \$4,999.99 Small Group Grant**

The Writing Center is creating the Online Technical Communication Center, which provides OER resources such as videos, activities, and handouts to support students in STEM. Our OERs range from discipline-specific writing conventions to academic communication skills and are accessible to the Mines community, other universities, and the public.

**CSU: "Open Educational Resources at Colorado State University Fort Collins: Increasing Awareness, Supporting Course Conversion, and Developing High Quality OER" \$60,000.00 Institutional Grant**

- Increasing awareness—and, ultimately, adoption—of OER among faculty, staff, and students
- Reducing barriers to OER adoption by supporting efforts to integrate OER into the curricula in high-enrollment courses
- Supporting efforts to create high-quality OER materials for use in high enrollment courses

*OER Courses as a result of the grant:* AA100, BC401, CPM371, FIN670, JTC270, MIP250, MIP420, SPCM334

**CSU: "Digital Open Educational Resources (OER) for Statics" \$4,999.99 Small Group Grant**

Lead the collaborative development of an OER textbook for Engineering Mechanics: Statics. The book will be available in both digital and print form and will heavily use interactive figures to boost students conceptual understanding.

**CSU-Pueblo: "CSU-Pueblo: A DOER Campus by 2028" \$45,000.00 Institutional Grant**

*OER efforts at CSU-Pueblo enhanced by this grant include:*

- Direct support of a small number of targeted, high-impact projects,
- General community building and education of faculty and staff about the potential of OER,
- Mini-grant program to support adoption, adaptation, and creation of OER, and
- Building infrastructure (mostly software and hosting) to support OER adoption, adaptation, and creation.

*OER Courses as a result of the grant:* ENG101, ENG102

**CU-System: "Open CU: Building a Sustainable OER Initiative Across the University of Colorado"**

**\$60,000.00 Institutional Grant**

This proposal represents the University of Colorado's commitment to reducing barriers to OER adoption across our campuses by demonstrating institutional support; providing learning and educational opportunities to educators to enhance OER skill and knowledge; sharing expertise and tools for successful identification, evaluation and adoption of OER; and offering incentives for educator time and effort.

**CU- Boulder: "University Reading: Getting Ready for Success"**

**\$4,000.00 Small Group Grant**

This OER project's aim is to create an affordable, effective developmental reading textbook for Adult Basic Education and English as a Second Language classes adapted from open (OER) freshman-level textbooks from the five most popular majors. These freshman-level passages are often written above the reading level of many high school graduates and/or English as a second language students. Therefore, this proposed textbook will adapt university-level OER chapters and provide comprehension questions, reading skill instruction, and expansion activities.

**FLC: "Putting Students at the Center through OER"**

**\$42,000.00 Institutional Grant**

Fort Lewis College is focusing on a two-pronged approach to support and expand the use of OER at Fort Lewis College:

- Prong 1 - Production: FLC will establish three levels of monetary incentives to faculty to encourage the adoption, adaption, and creation of OER.
- Prong 2 - Education: FLC will use grant funds to allow key personnel to develop expertise in OER and OER Librarianship by attending conferences and seminars directed at OER.

**FRCC: "Developing Open Educational Resources for English Composition Courses"**

**\$3,200.00 Small Group Grant**

Developing OER for English Composition I&II. Our work includes researching and understanding OER repositories and platforms, developing course materials, and piloting these OER materials in English Composition classes.

*OER Courses as a result of the grant: ENG121, ENG122*

**MSU-Denver: "Running the Open Road: Open Roadrunners Program"**

**\$60,000.00 Institutional Grant**

All of the state funding goes to faculty incentives in three categories related to OER awareness and adoption: OER review (\$200), faculty learning community completion (\$500), and OER adoption in a course (\$750). Through Provost support MSU-Denver is paying the fringe benefits and providing six hours of release time for a faculty OER coordinator for outreach to MSU Denver faculty about OER benefits and opportunities, coordinating grant administration, and reporting.

*OER Courses as a result of the grant: CAS1010, CAS2301, CHE1800, CHE1810, CHE3100, CHE3110, CIS3050, CS1050, HIS1210, MKT2010, MTH1080*

**PCC: "Pueblo Community College Open Educational Resources (OER) Project"**

**\$25,000.00 Institutional Grant**

PCC sent 3 individuals (2 faculty and 1 staff) to the OER Ambassador training this summer. The Ambassadors are working to spread information about the OER stipends over the summer. A revised budget has made room for more, smaller OER stipends.

*OER Courses as a result of the grant:* ART110, COM125, CRJ110, EDU221, ENG131, HIS111, HIS112, POS111, PSY101, PSY102, PSY235

**PPCC: "Pikes Peak Community College OER Initiative"**

**\$40,000.00 Institutional Grant**

PPCC is using grant funding to replace costly textbooks/materials with low-cost OER textbooks/materials in high-enrollment, high-impact courses while also ensuring that textbooks/materials are adapted into accessible formats that will benefit all students.

*OER Courses as a result of the grant:* ANT111, BIO105, CCR094, COM115, COM125, CSC105, ECO201, ECO202, ENG121, ENG122, GEO105, GEO106

**RRCC: "Red Rocks Community College OER Pathway"**

**\$30,000.00 Institutional Grant**

The OER pathway at RRCC will provide students a cost-effective alternative to traditional textbooks. The project enables RRCC students to opt into an OER pathway to complete an AS or AA degree with 75% of the courses using OER material at zero-cost.

*OER Courses as a result of the grant:* MAT050, MAT055, MAT201, MAT202, PHY211, CHE211, BIO105, BIO106, BIO224, PSY101, SPA211, SPA212, ECE220, HIS205, HIS247

**UCD: "Undergraduate Design Build Textbook" \$4,999.99 Small Group Grant**

**UNC: "OER Awareness and Infrastructure Building at the University of Northern Colorado"**

**\$20,000.00 Institutional Grant**

The grant project supports a competitive faculty incentive program for three \$2,000 incentives for faculty to adopt or adapt OER into an existing undergraduate course. The grant also supports five \$200 awards for faculty to review an open textbook. Finally, the grant supports the professional development of the faculty awardees via meetings with an instructional designer and mileage expenses to attend the CDHE OER conference in May 2019.

*OER Courses as a result of the grant:* ENG345, PHIL100, MAT120, PSY120

**WCU: "OER Innovation at Western Colorado University: A Rural University's Role in Shaping Equitable Higher Learning Spaces"**

**\$22,000.00 Institutional Grant**

Project provides stipends, trainings, and ongoing support that is helping 7 professors adopt OER in their courses.

OER CONFERENCE TRAVEL FUND GRANTS

Colorado Mountain College \$2,500, Northeastern Junior College \$2,500, Trinidad State Junior College \$4,500

**Total Awards for 2018-19 Grant Cycle: \$549,107.97**

## Appendix B - Grantee Reported Data List of Courses Addressed in Year One Grant Cycle

Institution	Course Name & Number	Gen. Ed. GT Pathways Designation
Arapaho Community College	COM115: Public Speaking	N/A
Arapaho Community College	ECO202: Principles of Microeconomics	GT-SS1
Arapaho Community College	ENG121: English Composition I	GT-CO1
Arapaho Community College	PHY105: Conceptual Physics with Lab	GT-SC1
Aims Community College	ART110: Art Appreciation	GT-AH1
Aims Community College	BIO112: General College Biology II, with Lab	GT-SC1
Aims Community College	COM115: Public Speaking	N/A
Aims Community College	COM220: Intercultural Communication	GT-SS3
Aims Community College	GEO106: Human Geography	GT-SS2
Aims Community College	HUM122: Humanities: Medieval-Modern	GT-AH2
Aims Community College	HWE122: Responding to Emergencies	N/A
Aims Community College	LIT115: Introduction to Literature	GT-AH2
Aims Community College	MAN102: Business Ethics and Values	N/A
Aims Community College	PSY226: Social Psychology	GT-SS3
CCCOnline	ART110: Art Appreciation	GT-AH1
CCCOnline	BUS216:	N/A
CCCOnline	COM115: Public Speaking	N/A
Colorado School of Mines	CBEN210: Introduction to Thermodynamics	N/A
Colorado School of Mines	CBEN304: Anatomy and Physiology	N/A
Colorado School of Mines	ENGY200: Introduction to Energy	N/A
Colorado School of Mines	GEGN466: Groundwater Engineering	N/A
Colorado School of Mines	GEGN467: Groundwater Engineering	N/A
Colorado School of Mines	HASS100: Nature and Human Values	N/A
Colorado School of Mines	MATH225: Differential Equations	N/A
Colorado School of Mines	MATH235: Differential Equations Honors	N/A
Colorado School of Mines	MATH500: Linear Vector Spaces	N/A
Colorado School of Mines	MEGN200: Introduction to Mechanical Engineering: Programming and Hardware Interface	N/A
Colorado School of Mines	MEGN301: Mechanical Integration & Design	N/A
Colorado School of Mines	MLGN598: Pilot course - Graduate Laboratory Module X-ray Photoelectron Spectroscopy (XPS)	N/A
Colorado School of Mines	PHGN100: Physics I - Mechanics	GT-SC1
Colorado State University Fort Collins	AA100: Introduction to Astronomy	GT-SC2
Colorado State University Fort Collins	BC401: Comp Biochem	N/A
Colorado State University Fort Collins	CPM371: Mechanical and Plumbing Systems	N/A
Colorado State University Fort Collins	FIN670: Risk Management	N/A
Colorado State University Fort Collins	JTC270: Quantitative Analysis in Journalism and Media (and others)	N/A
Colorado State University Fort Collins	MIP250: Eukaryotic Microbiology	N/A
Colorado State University Fort Collins	MIP420: Virology	N/A
Colorado State University Fort Collins	SPCM334: Intro Co-Cult Comm	N/A
Colorado State University (Pueblo)	ENG101: Composition I	GT-CO1
Colorado State University (Pueblo)	ENG102: Composition II	GT-CO2
CU-Boulder	NCIE4650: Level 8 Reading	N/A
Fort Lewis	BIO140: Introduction to Human Disease	GT-SC2
Fort Lewis	BIO233: Human Anatomy	N/A

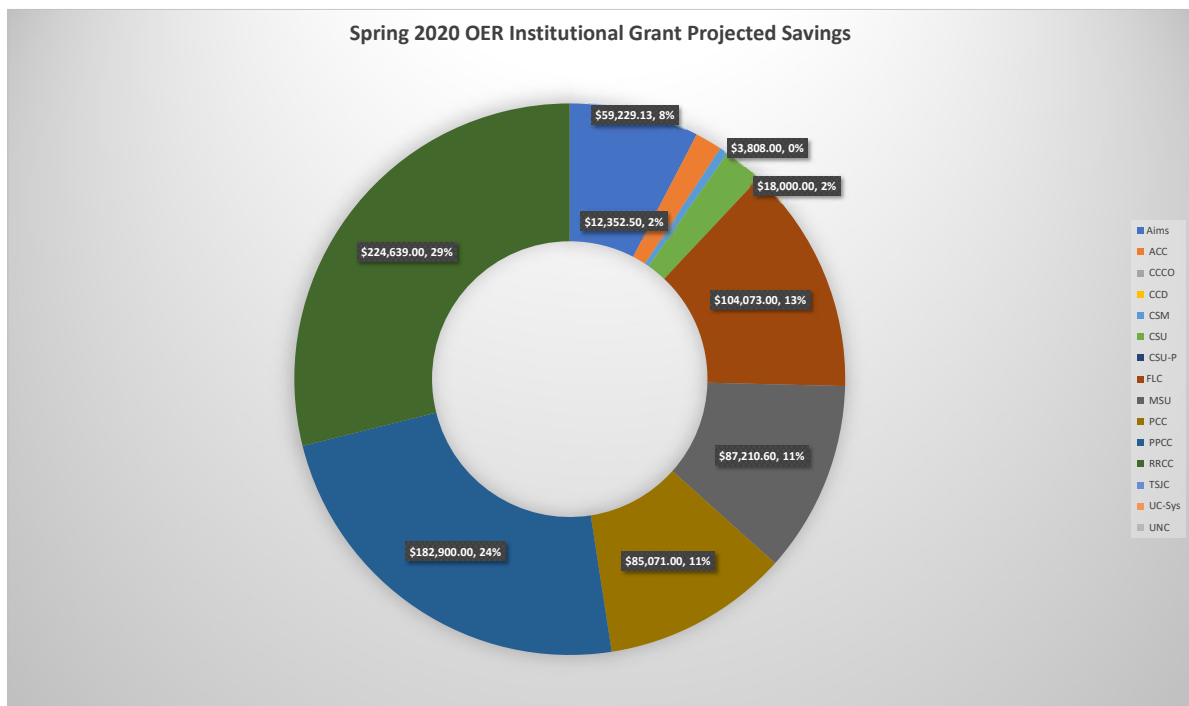
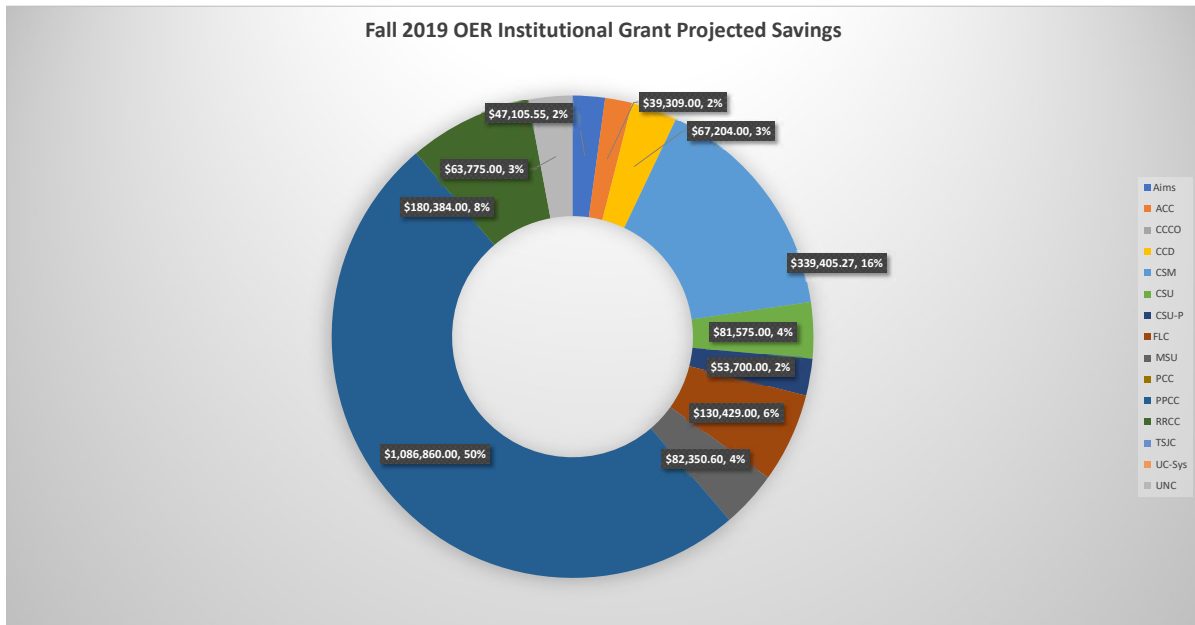
Fort Lewis	<b>COMP150:</b> Rhetoric and Research	GT-CO1
Fort Lewis	<b>ES 335:</b> Biomechanics of Sport and Exercise	N/A
Fort Lewis	<b>GEOG 315:</b> GIS Programming and Web Mapping	N/A
Fort Lewis	<b>GEOL361:</b> Sedimentology and Stratigraphy	N/A
Fort Lewis	<b>HIST 261:</b> Western Civilization II (1350 to Present)	GT-HI1
Fort Lewis	<b>MATH 101/112/113:</b> Algebra for Calculus	GT-MA1
Fort Lewis	<b>MATH 105:</b> College Mathematics	GT-MA1
Fort Lewis	<b>MATH 132:</b> Introduction to Statistics	GT-MA1
Fort Lewis	<b>MATH 327:</b> Differential Equations	N/A
Fort Lewis	<b>PHIL141:</b> Introduction to Philosophy	GT-AH3
Fort Lewis	<b>PS101:</b> Introduction to Political Science	GT-SS1
Front Range Community College	<b>ENG121:</b> English Composition I	GT-CO1
Front Range Community College	<b>ENG122:</b> English Composition II	GT-CO2
Metropolitan Statue University	<b>CAS1010:</b> Public Speaking	N/A
Metropolitan Statue University	<b>CAS2301:</b> Communication Theory	N/A
Metropolitan Statue University	<b>CHE1800:</b> General Chemistry I/General Chemistry I Lab	GT-SC1
Metropolitan Statue University	<b>CHE1810:</b> General Chemistry II/General Chemistry II Lab	GT-SC1
Metropolitan Statue University	<b>CHE3100:</b> Organic Chemistry I	N/A
Metropolitan Statue University	<b>CHE3110:</b> Organic Chemistry II	N/A
Metropolitan Statue University	<b>CIS3050:</b> Fundamentals of System Analysis and Design	N/A
Metropolitan Statue University	<b>CS1050:</b> Computer Science1	N/A
Metropolitan Statue University	<b>HIS1210:</b> American History to 1865	GT-HI1
Metropolitan Statue University	<b>MKT2010:</b> Marketing Around the Globe	N/A
Metropolitan Statue University	<b>MTH1080:</b> Mathematical Modes of Thought	GT-MA1
Pueblo Community College	<b>ART110:</b> Art Appreciation	GT-AH1
Pueblo Community College	<b>COM125:</b> Interpersonal Communication	N/A
Pueblo Community College	<b>CRJ110:</b> Introduction to Criminal Justice	GT-SS3
Pueblo Community College	<b>EDU221:</b> Introduction to Education	N/A
Pueblo Community College	<b>ENG131:</b> Technical Writing I	GT-CO1
Pueblo Community College	<b>HIS111:</b> The World: Antiquity - 1500	GT-HI1
Pueblo Community College	<b>HIS112:</b> The World: 1500 - Present	GT-HI1
Pueblo Community College	<b>POS111:</b> American Government	GT-SS1
Pueblo Community College	<b>PSY101:</b> General Psychology I	GT-SS3
Pueblo Community College	<b>PSY102:</b> General Psychology II	GT-SS3
Pueblo Community College	<b>PSY235:</b> Human Growth & Development	GT-SS3
Pikes Peak Community College	<b>ANT111:</b> Biological Anthropology, with Lab	GT-SC1
Pikes Peak Community College	<b>BIO105:</b> Science of Biology, with Lab	GT-SC1
Pikes Peak Community College	<b>CCR094:</b> Studio 94	N/A
Pikes Peak Community College	<b>COM115:</b> Public Speaking	N/A
Pikes Peak Community College	<b>COM125:</b> Interpersonal Communication	N/A
Pikes Peak Community College	<b>CSC105:</b> Computer Literacy	N/A
Pikes Peak Community College	<b>ECO201:</b> Principles of Macroeconomics	GT-SS1
Pikes Peak Community College	<b>ECO202:</b> Principles of Microeconomics	GT-SS1
Pikes Peak Community College	<b>ENG121:</b> English Composition I	GT-CO1
Pikes Peak Community College	<b>ENG122:</b> English Composition II	GT-CO2
Pikes Peak Community College	<b>GEO105:</b> World Regional Geography	GT-SS2
Red Rocks Community College	<b>MAT050:</b> Quantitative Literacy	N/A
Red Rocks Community College	<b>MAT055:</b> Algebraic Literacy	N/A
Red Rocks Community College	<b>MAT201:</b> Calculus I	GT-MA1
Red Rocks Community College	<b>MAT202:</b> Calculus II	GT-MA1
Red Rocks Community College	<b>CHE211:</b> Calculus based Physics	N/A
Red Rocks Community College	<b>PHY211:</b> Physics: Calculus-based I, with Lab	GT-SC1
Red Rocks Community College	<b>BIO105:</b> Science of Biology, with Lab	GT-SC1

Red Rocks Community College	<b>BIO106:</b> Basic Anatomy and Physiology	N/A
Red Rocks Community College	<b>BIO224:</b> Genetics	GT-SC1
Red Rocks Community College	<b>PSY101:</b> General Psychology I	GT-SS3
Red Rocks Community College	<b>SPA211:</b> Spanish Language III	GT-AH4
Red Rocks Community College	<b>SPA212:</b> Spanish Language IV	GT-AH4
Red Rocks Community College	<b>ECE220:</b> Curriculum Methods and Techniques	N/A
Red Rocks Community College	<b>HIS205:</b> Women in World History	GT-HI1
Red Rocks Community College	<b>HIS247:</b> 20th Century World History	GT-HI1
University of Northern Colorado	<b>ENG345:</b> Literary Theory and Criticism	N/A
University of Northern Colorado	<b>MAT120:</b> Mathematics and Liberal Arts	GT-MA1
University of Northern Colorado	<b>PHIL100:</b> Introduction to Philosophy	GT-AH3
University of Northern Colorado	<b>PSY120:</b> Principles of Psychology	GT-SS3

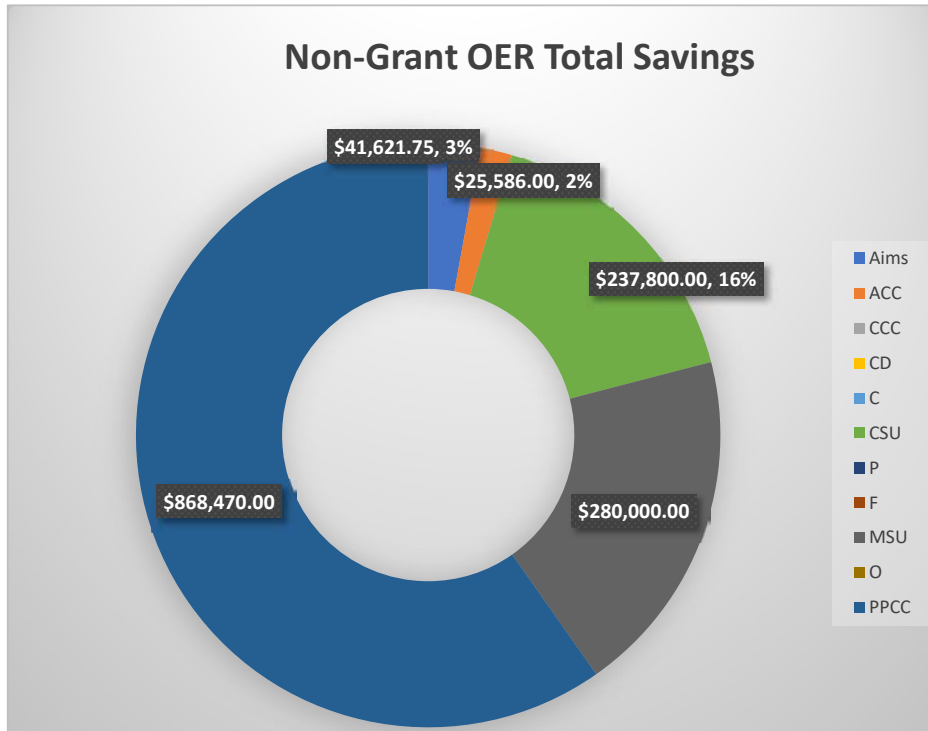
OER Grant and Institutional Impact FA 2019 Report

Name of Institution	Summer 2019 Total Savings (Projected from Grant)	Fall 2019 Total Savings (Projected from Grant)	Spring 2020 Total Savings (Projected from Grant)	Fall 2020 Total Savings (Projected from Grant)	Fall 2021 Total Savings (Projected from Grants)	TOTAL	Number of Students affected
Aims Community College		\$47,105.55	\$59,229.13			\$106,334.68	807
Arapahoe Community College (ACC)		\$39,309.00	\$12,352.50			\$51,661.50	552
CCOnline							
Community College of Denver (CCD)		\$67,204.00				\$67,204.00	1069
Colorado School of Mines (CSM)		\$339,405.27	\$3,808.00	\$220,116.00	\$5,950.00	\$569,279.27	3250
Colorado State University		\$81,575.00	\$18,000.00	\$15,970.00		\$115,545.00	660
Colorado State University - Pueblo		\$53,700.00				\$53,700.00	537
Fort Lewis College		\$130,429.00	\$104,073.00			\$234,502.00	2158
Metropolitan State University - Denver (MSU-Denver)		\$82,350.60	\$87,210.60	\$95,040.60		\$264,601.80	711
Pueblo Community College	\$7,680.00		\$85,071.00			\$92,751.00	841
Pikes Peak Community College	\$168,960.00	\$1,086,860.00	\$182,900.00			\$1,438,720.00	10837
Red Rocks Community College		\$180,384.00	\$224,639.00			\$405,023.00	1608
Trinidad State Junior College							
University of Colorado-System							
University of Northern Colorado		\$63,775.00				\$63,775.00	470
Western Colorado University							
<b>TOTAL</b>	<b>\$176,640.00</b>	<b>\$2,172,097.42</b>	<b>\$777,283.23</b>	<b>\$331,126.60</b>	<b>\$5,950.00</b>	<b>\$3,463,097.25</b>	<b>23500</b>



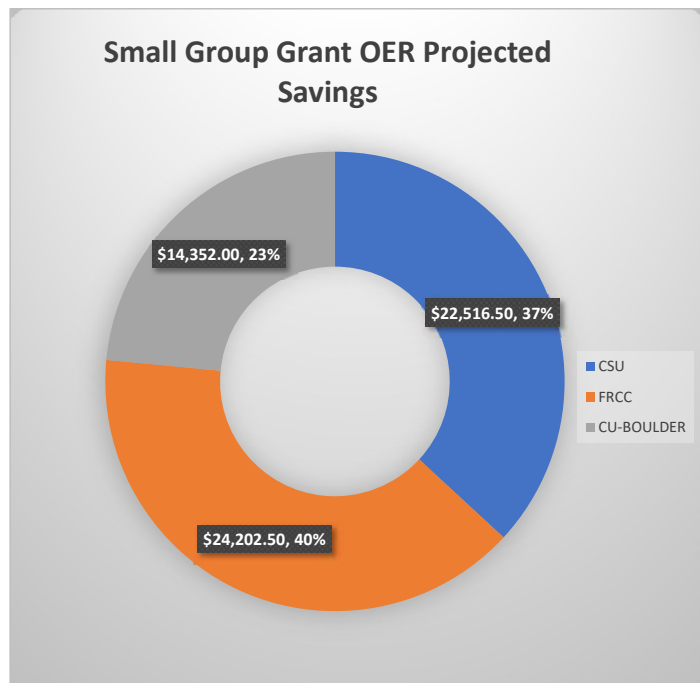


Name of Institution	Prior Fall 2017 Savings Total	Total Fall 2017 Savings	Total Spring 2018 Savings	Total Fall 2018 Savings	Total Spring 2019 Savings	Total Fall 2019 Savings	Total Spring 2020 Savings	TOTAL	Number of Students Affected
Aims Community College		\$7,478.00	\$5,040.00	\$14,774.00	\$14,329.75			\$41,621.75	412
Arapahoe Community College (ACC)				\$19,400.00		\$6,186.00		\$25,586.00	240
CCCOnline									
Community College of Denver (CCD)									
Colorado School of Mines (CSM)									
Colorado State University					\$237,800.00			\$237,800.00	1800
Colorado State University - Pueblo									
Fort Lewis College									
Metropolitan State University - Denver (MSU-Denver)	\$123,000.00	\$26,000.00	\$26,000.00	\$33,000.00	\$36,000.00	\$36,000.00		\$280,000.00	2245
Pueblo Community College									
Pikes Peak Community College				\$390,470.00	\$16,000.00		\$462,000.00	\$868,470.00	4696
Red Rocks Community College									
Trinidad State Junior College									
University of Colorado-System									
University of Northern Colorado									
Western Colorado University									
<b>TOTAL</b>	<b>\$210,000.00</b>	<b>\$33,478.00</b>	<b>\$31,040.00</b>	<b>\$457,644.00</b>	<b>\$304,129.75</b>	<b>\$6,186.00</b>	<b>\$462,000.00</b>	<b>\$1,453,477.75</b>	<b>9393</b>



**OER Grant and Institutional Impact FA 2019 Report**

Name of Institution	Fall 2019 Total Savings (Projected from Grant)	Spring 2020 Total Savings (Projected from Grant)	Number of Students affected
CSM-Horan		\$22,516.50	170
CSU-Baker			192
FRCC	\$24,202.50		96
CU-Boulder		\$14,352.00	
CU-Denver			
<b>TOTAL</b>	<b>\$24,202.50</b>	<b>\$36,868.50</b>	<b>458</b>



## Appendix C - Open Education Ambassadors Roster & Training Agenda with the Open Textbook Network



### Colorado Open Education Ambassadors Open Textbook Network

Lowry Conference Center  
 Rooms 100 A-C  
 1061 Akron Way, Building 697  
 Denver, Colorado 80230



**Dave Ernst, PhD**  
 Director, Center for Open Education  
 Executive Director, Open Textbook Network  
[dernst@umn.edu](mailto:dernst@umn.edu); @dernst



**Sarah Faye Cohen**  
 Managing Director, Open Textbook  
 Network  
[sfcohen@umn.edu](mailto:sfcohen@umn.edu); @thesheck

May 30 <sup>th</sup> , 2019 9am – 4pm	
8.30am – 9am	Check-in and light breakfast
9am – 9.45am	Welcome; Introductions; Workshop Goals
9.45am – 10.30am	Identifying obstacles to open textbook adoptions
10.30am – 10.45am	What does a successful program look like?
10.45am – 11am	--Break--
11am – 11.30am	The Open Textbook Library in-depth
11.30am – 12.15pm	Workshop training on “Making the Case”
12.15pm – 1pm	--Lunch--
1pm – 2.15pm	Workshop training on student academic success and open

2.15pm – 2.30pm	--Break--
2.30pm – 3.30pm	Developing programs on your local campus <ul style="list-style-type: none"> <li>• Recruitment</li> <li>• Strategies for addressing common challenges</li> </ul>
3.30pm – 4pm	What do I do now? <ul style="list-style-type: none"> <li>• Workshoplogistics</li> <li>• Communication</li> </ul>
<b>Presenters</b>	<p><b>David Ernst, Ph.D.</b>                      Graduate faculty and Chief Information Officer in the College of Education and Human Development at the University of Minnesota. David is the Director of the Center for Open Education and the Executive Director of the Open Textbook Network, which works to improve higher education through the advancement of open textbooks.</p> <p><b>Sarah Faye Cohen</b>                      Sarah is a Managing Director of the Open Textbook Network. She earned her MS in Information Science at the University of Illinois, Urbana Champaign and is a graduate of Smith College. She is a two-time award winner of the Association of College and Research Libraries Excellence in Academic Libraries Award.</p>

### Open Education Ambassadors Roster

Colorado Open Education Ambassador Program helps support champions and change agents with the tools necessary to support campus-wide OER efforts. Initial training takes place with the Open Textbook Network (OTN) and continues with ongoing professional development sessions held remotely and at the Colorado Department of Higher Education. The opportunities below vary from workshops, to innovative product demos and everything in between.

First Name	Last Name	Organization or Institution
Jeff	Bullington	Adams State University
Amanda	Langdon	Adams State University
Chelle	Costello	Aims Community College
Catherine	Glaser	Aims Community College
James	Hutchinson	Aims Community College
Lisa	Chestnutt	Arapahoe Community College
Josie	Mills	Arapahoe Community College
Rachel	Newlon	Arapahoe Community College
Susan	Stafinbil	Arapahoe Community College
Benjamin	Kohntopp	CCCOonline
Jennifer	Golightly	Colorado College
Cate	Guenther	Colorado College
Nicholas	Swails	Colorado Northwestern Community College
Ana	Lopez	Colorado School of Mines
Christopher JJ	Thiry	Colorado School of Mines
Medora	Huseby	Colorado State University
Christina	Pawliuk	Colorado State University
Jane	Fraser	Colorado State University - Pueblo
Alexis	Wolstein	Colorado State University - Pueblo
Mandy	Geddes	Community College of Aurora
Dan	Lawrence	Community College of Aurora
Son	Duong	Community College of Denver
Aysenur (Nur)	Ozyer	Community College of Denver
Tony	Contento	CSU-Global
Jeffrey	Wahl	CSU-Global
Brad	Hinson	CU-Denver
Caroline	Kulesza	Fort Lewis College
Eric	Prosser	Fort Lewis College
Nicolas	Pares	Front Range Community College
Sophia	Strickfaden	Johnson & Wales University
Merrie	Valliant	Johnson & Wales University
Victoria	West-Pawl	Johnson & Wales University
Gabe	Christie	Metropolitan State University of Denver
Sarah	Debbek	MSU-Denver
Diane	Watkins	MSU-Denver
Amy	Filipiak	Pikes Peak Community College
Marc	Nash	Pikes Peak Community College

Colleen	Boyle	Pueblo Community College
Nancy	Scofield	Pueblo Community College
Matthew	Sterner-Neely	Pueblo Community College
Cathee	Duncan	Pueblo Community College
Linda	Rowley	Trinidad State Junior College
Mike	Klymkowsky	University of Colorado
Melissa	Cantrell	University of Colorado - Boulder
Amanda	McAndrew	University of Colorado - Boulder
Caroline	Sinkinson	University of Colorado - Boulder
Jacqueline	Crouch	University of Colorado - Colorado Springs
Sharon	Stevens	University of Colorado - Colorado Springs
Ellen	Metter	University of Colorado - Denver
Ben	Harnke	University of Colorado - Anschutz
Michelle	Kruse-Crocker	University of Denver
Elias	Trucks	University of Denver
Jennifer	Mayer	University of Northern Colorado
Stephanie	Wiegand	University of Northern Colorado
Kathleen	Kinkema	Western Colorado University
Emily	Bongiovanni	z-OER Council Member
Meg	Brown-Sica	z-OER Council Member
Brittany	Dudek	z-OER Council Member
Spencer	Ellis	z-OER Council Member
Dustin	Fife	z-OER Council Member
Reagan	Harper	z-OER Council Member
Susan	Kendall	z-OER Council Member
Deborah	Keyek-Franssen	z-OER Council Member
Alana	Lipscomb	z-OER Council Member
Mark	Manzanares	z-OER Council Member
Renee	Martinez	z-OER Council Member
Tina	Parscal	z-OER Council Member
Jonathan	Poritz	z-OER Council Member
Helen	Reed	z-OER Council Member
Emily	Ragan	z-OER Council Member

## Appendix D - Open Education Week 2019 Schedule



**COLORADO**  
Department of  
Higher Education

### Open Education Week 2019

*Join our great events this week!*

**Open Education Week** is a celebration of the global Open Education Movement. Its goal is to raise awareness about the movement and its impact on teaching and learning worldwide.

Faculty, students, staff and OER advocates are celebrating by holding events at their campuses. See the [list of events below](#), or email [OER@dhe.state.co.us](mailto:OER@dhe.state.co.us) for more information!

#### Featured Sessions

**Monday:** [\*COLTT Keynote Watch Party & OER Equity Discussion\*](#)

**Tuesday:** [\*Dynamic OER Champion Panel\*](#)

**Wednesday:** [\*Digital Workshop - Approaches to Addressing Affordability\*](#)

**Thursday:** [\*Faculty Showcase — Free & Flexible Online Math Homework with WeBWork\*](#)

**Friday:** [\*Rocky & Rewarding: the Winding Paths of OER Initiatives\*](#)

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For more information: [oer@dhe.state.co.us](mailto:oer@dhe.state.co.us)








**OWeek in Colorado: a comprehensive list of Colorado events!**

Session Title	Speaker/Facilitator	Description	Location or Link to Event	Contact for more info
<b>Friday, March 1<sup>st</sup></b>				
"2019 Colorado Open Scholars Summit"	University of Denver Colorado State University University of Colorado Boulder University of Colorado Colorado Springs University of Colorado Anschutz Medical Center Regis University University of Northern Colorado Auraria Libraries University of Colorado Denver Metropolitan State University of Denver Community College of Denver	 <p>Please join the <a href="#">2019 Colorado Open Scholars Summit</a> for a look at <b>Openness in Tenure and Promotion</b>. Discussion will address Open Access publication and resources within Tenure &amp; Promotion.</p>	<p style="text-align: center;"><a href="#">Register here!</a></p> <p>March 1<sup>st</sup>, 10:00-2:00, <i>attend virtually!</i></p>	<p style="text-align: center;">Jenelys Cox <a href="mailto:Jennifer.Cox@du.edu">Jennifer.Cox@du.edu</a></p>
<b>Monday, March 4th</b>				
"Serving Access, Equity, and Innovation through Open Educational Practices"	Dr. Rajiv Jhangiani, Kwantlen Polytechnic University (speaker);	 <p>Dr. Rajiv Jhangiani Kwantlen Polytechnic University (speaker);</p>	<p>Link to keynote: <a href="https://www.cu.edu/colt/keynote-speaker-2018">https://www.cu.edu/colt/keynote-speaker-2018</a></p> <p>Link to live webinar discussion: <a href="https://csuglobal.zoom.us/j/452054481">https://csuglobal.zoom.us/j/452054481</a></p>	<p style="text-align: center;"><a href="mailto:OER@dhe.state.co.us">OER@dhe.state.co.us</a></p>





	Spencer Ellis (facilitator), Colorado Department of Higher Education	This hands-on activity is intended to encourage discussion specifically around equity and innovation in relation to Open Educational Resources (OER). Visit <a href="#">this link</a> for more information.		
<b>Tuesday, March 5th</b>				
"OER Momentum in the Rocky Mountains: Policy, Practice and Purpose"	Meg Brown-Sica, Colorado State University Brittany Dudek, Colorado Community Colleges Online-Spencer Ellis, Colorado Department of Higher Ed. Dr. Jonathan Poritz, Colorado State University-Pueblo	 <p>This event is part of the <b>CC Open Education Platform and CC Poland's 24-hour webinar sprint</b>. Colorado's unique leadership with statewide OER efforts is steered by the OER Council, a legislatively created advisory group comprised of representatives from a variety of disciplines and institutional types. This session will highlight how a diverse group of individuals in the Rocky Mountain state have advocated and executed OER efforts at the state level, while also highlighting future ambitions in policy, practice and purpose.</p>	<p>More information on the event at this link: <a href="https://oerpolicy.eu/events/the-2nd-global-open-education-web-conference-agenda/?preview=true">https://oerpolicy.eu/events/the-2nd-global-open-education-web-conference-agenda/?preview=true</a></p>	<p style="text-align: center;"><a href="mailto:OER@dhe.state.co.us">OER@dhe.state.co.us</a></p>
<b>Wednesday, March 6th</b>				






<p><i>"Consider Open: Enhancing Student Learning with Open Educational Resources"</i></p>	<p>Jennifer Mayer, UNC Libraries Stan Trembach, UNC Libraries</p>	 <p>UNIVERSITY OF NORTHERN COLORADO</p> <p>An interactive workshop that will offer specific examples of how OER and open pedagogy can empower learners in a course. Participants will explore how to locate and evaluate disciplinary OER, discuss the benefits and challenges of incorporating open content into their teaching, and learn tips for designing student-centered open pedagogy projects.</p>	<p>March 6, 2019 11:30 am-1:00 pm</p>	<p>Jennifer Mayer <a href="mailto:Jennifer.mayer@unco.edu">Jennifer.mayer@unco.edu</a></p>
<p><i>"Digital Workshop: Approaches to Addressing Affordability"</i></p>	<p>Students &amp; staff from ACC Students from PCCC Faculty and librarian OER experts</p>	 <p>ARAPAHOE COMMUNITY COLLEGE</p> <p>Concerned about making higher education more affordable? Want to take action by addressing the cost of textbooks and course materials? This student-led event will equip students and other OER advocates the tools they need to enter into discussions about affordable textbooks on campus. Participants will gain a better understanding of what OER are and strategies for encouraging positive change with faculty, staff and administration.</p>	<p>Link to live webinar: <a href="https://csuglobal.zoom.us/j/193760953">https://csuglobal.zoom.us/j/193760953</a></p> <p>OR</p> <p>Students at ACC Littleton Campus, feel free to join us in room:</p>	<p><a href="mailto:OER@dhe.state.co.us">OER@dhe.state.co.us</a></p> <p>OR</p> <p>Dan Balski <a href="mailto:Dan.Balski@arapahoe.edu">Dan.Balski@arapahoe.edu</a></p>



<p style="text-align: center;"><b>Thursday, March 7th</b></p>				
<p><i>"Free &amp; Flexible Online Math Homework with WeBWork"</i></p>	<p>Brenda Forland, Red Rocks Community College</p>	 <p>RED ROCKS COMMUNITY COLLEGE</p> <p>Come check out WeBWork, the OER math assessment tool that has over 30,000 problems available and the ability to modify and create just about anything. This webinar will give a brief tour of what WeBWork is, its features, and what it's capable of, and then dive into how you can bring it to your own campus.</p>	<p>Link to live webinar: <a href="https://csuglobal.zoom.us/j/678024125">https://csuglobal.zoom.us/j/678024125</a></p>	<p><a href="mailto:OER@dhe.state.co.us">OER@dhe.state.co.us</a></p>
<p><i>"OER Faculty Development Event"</i></p>	<p>Dr. Mark Manzanares, Adams State University</p>	 <p>ADAMS STATE UNIVERSITY COLORADO</p> <p>Adams State University will host a lunch-time talk, in the Student Union Building highlighting OER. What are OER? How do they work? Local leaders will discuss: what we are wanting as a strategy and priorities as a campus how the state through the Council, and Adams through the Library and other</p>	<p>Reach out to local contact for further information or if you'd like to get involved.</p>	<p>Mark Manzanares <a href="mailto:markmanzanares@adams.edu">markmanzanares@adams.edu</a></p>



		areas, are able to help support faculty, etc.		
<i>"#Textbookbroke: How much did you pay?"</i>	Meg Brown-Sica, Khaleedah Thomas, Jenna Allen, Heidi Zuniga and Christine Pawliuk Colorado State University	 We will be engaging with students and asking questions about how much they pay for course materials and what they could have use the money for instead. We will gather this data and display the information to inform further discussions on campus.	10 a.m.-2 p.m. (approximately); please reach out to local contact for more information	Meg Brown-Sica <a href="mailto:meg.brown-sica@colostate.edu">meg.brown-sica@colostate.edu</a>
<b>Friday, March 8th</b>				
<i>"Scaling the peaks: the rocky and rewarding path of OER"</i>	Dr. MJ Bishop, University of Maryland System Dr. Deb Keyek-Franssen	 Highly interactive webinar that takes you from basics of OER to case study of Maryland (what worked, what didn't, what successes) and then shifts the discussion dynamic Q&A.	Link to live webinar: <a href="https://csuglobal.zoom.us/j/926814688">https://csuglobal.zoom.us/j/926814688</a>	Deborah Keyek-Fanssen <a href="mailto:deblkf@cu.edu">deblkf@cu.edu</a>
<i>"OER Workshop @ Colorado School of Mines"</i>	Emily Bongiovani, Colorado School of Mines 	OERs are free for students to access and for instructors to modify. They decrease the costs of textbooks and other class supplies. OER does not mean only digital resources. It includes free printer-friendly options for books and other items. Come to the workshop to learn more about using OERs!	Link to more information: <a href="https://mines.libcal.com/event/5183761">https://mines.libcal.com/event/5183761</a> March 8, 3-4pm in the Arthur Lakes Library's Boettcher Room	Emily Bongiovani <a href="mailto:emilybongiovanni@mines.edu">emilybongiovanni@mines.edu</a>



## Monday

10.30am – 11.30am

*“Serving Access, Equity, and Innovation through Open Educational Practices”*

**Speaker:** Dr. Rajiv Jhangiani, discussion facilitation by Spencer Ellis



**Description:** Colorado Learning and Teaching with Technology (COLTT) is the leading regional conference on teaching with technology. In 2018 COLTT’s keynote address was stirring and inspiring as Dr. Rajiv Jhangiani presented on how OER address access, equity, and innovation in education. Attendees are encouraged watch the keynote ahead of the live discussion which will explore topics.

-Dynamic interactive discussion content can be found at:

<https://docs.google.com/document/d/1ordy32VhfMSKOsd624MYMKAb1P5jmY4jAIN4dsLhMU0/edit>

-Link to keynote: <https://www.cu.edu/coltt/keynote-speaker-2018>.

**Attend remotely at:** <https://csuglobal.zoom.us/j/452054481>

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For more information: [oer@dhe.state.co.us](mailto:oer@dhe.state.co.us)





# Tuesday

11.30am – 12.00pm

*“OER Momentum in the Rocky Mountains: Policy, Practice and Purpose”*

**Speakers:** Meg Brown-Sica, CSU, Brittany Dudek CCCOnline, Spencer Ellis CDHE, Jonathan Poritz CSU-P



**Description:** Colorado’s unique leadership with statewide OER efforts is steered by the OER Council, a legislatively created advisory group comprised of representatives from a variety of disciplines and institutional types. This session will highlight how a diverse group of individuals in the Rocky Mountain state have advocated and executed OER efforts at the state level, while also highlighting future ambitions in policy, practice and purpose. This event is part of the **CC Open Education Platform** and **CC Poland’s 24-hour webinar sprint**, highlighting updates in open education from around the world!

**For more information, visit:**

<https://oerpolicy.eu/events/the-2nd-global-open-education-web-conference-agenda/?preview=true>

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For more information: [oer@dhe.state.co.us](mailto:oer@dhe.state.co.us)





# Wednesday

12.00pm – 12.45pm

*“Digital Workshop: Approaches to Addressing Affordability”*

**Speaker:** Students, Staff and Faculty from across the state



**Description:** Concerned about making higher education more affordable? Want to take action by addressing the cost of textbooks and course materials? This student-centered event will equip students and other OER advocates the tools they need to enter into discussions about affordable textbooks on campus. Participants will gain a better understanding of what OER are and strategies for encouraging positive change with faculty, staff and administration.

**Attend remotely at:** <https://csuglobal.zoom.us/j/193760953>





**COLORADO**  
Department of  
Higher Education

# Thursday

**11.00am – 12.00pm**

*“Free & Flexible Online Math Homework with WeBWork”*

**Speaker:** Brenda Forland



Tired of high cost online homework for your students? Tired of being unable to change anything as you feel like the product just doesn't quite fit your and your students' needs? Then come check out WeBWork, the OER math assessment tool that has over 30,000 problems available and the ability to modify and create just about anything. This webinar will give a brief tour of what WeBWork is, its features, and what it's capable of, and then dive into how you can bring it to your own campus. We will highlight success stories from the partnership between Red Rocks Community College, Community College of Denver, and Colorado Community Colleges Online and the integration of WeBWork into a variety of their courses including math, physics, and soon to be biology.

**Attend remotely at:** <https://csuglobal.zoom.us/j/678024125>

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For more information: [oer@dhe.state.co.us](mailto:oer@dhe.state.co.us)





# Friday



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

## ROCKY & REWARDING: THE WINDING PATHS OF OER INITIATIVES

DR. MJ BISHOP



**Friday, March 8, 2019, 9-10 a.m.**

<https://csuglobal.zoom.us/j/926814688>

**Attend remotely via Zoom or find a  
watch party near you!**

In this interactive webinar, Dr. Bishop will provide an OER 101 segment, a case study of her work at the University of Maryland, and a call to action for future OER work.

**Attend remotely at:** <https://csuglobal.zoom.us/j/926814688>

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For more information: [oer@dhe.state.co.us](mailto:oer@dhe.state.co.us)



## Appendix E - OER Conference Agenda



### Registration and Light Breakfast

7:30 a.m. – 8:30 a.m.  
Lobby & ROOM 100 A-C

### Welcome, Announcements and Introductions

8:30 a.m. – 8:35 a.m.  
ROOM 100 A-C

Dr. Angie Paccione,  
*Executive Director, CDHE*

### Morning Charge!

8:35 a.m. – 8:55 a.m.  
ROOM 100 A-C

Congressman <b>Joseph “Joe” Neguse</b> <i>Colorado 2nd District, U.S. House of Representatives</i>	Governor <b>Jared Polis</b> <i>Governor of Colorado</i>
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### Opening Plenary

8:55 a.m. – 9:45 a.m.  
ROOM 100 A-C

**Nicole Finkbeiner,**  
*Director, Institutional Relations OpenStax  
Rice University*

### Visible and Invisible Barriers

A tough look, through stories and experiences, of the visible and invisible barriers our students and employees face that impact their ability to be successful in the classroom, on the job, and in their lives. The presentation includes social justice topics including abuse, divorce, human trafficking, and yes, access and affordability issues with textbooks.

### Concurrent Session #1

9:55 a.m. – 10:45 a.m.  
Session descriptions on page 2

### Concurrent Session #2

10:55 a.m. – 11:45 a.m.  
Session descriptions on page 3

### Lunch Break

11:45 a.m. – 12:30 p.m.  
Lobby & 100 A-C & 200A

### Afternoon Plenary

12:35 a.m. – 1:00 p.m.  
ROOM 100 A-C

**David Ernst**  
*Executive Director, Open Textbook Network*

### The People and Intent Behind Open Education

We often think of Open Education as a collection of “things” that are freely available for use. But Open Education is primarily a purposeful focus on our higher education mission, and the people that it impacts.

### Concurrent Session #3

1:10 p.m. – 2:00 p.m.  
Session descriptions on page 4

### Concurrent Session #4

2:10 p.m. – 3:00 p.m.  
Session descriptions on page 5

### Wrap up and Closing

3:15 p.m. – 3:30 p.m.  
ROOM 100 A-C

CDHE Staff & OER Council

### Networking & Happy Hour

4:00 p.m. Lowry Beer Garden

## Concurrent Session #1

9:55 a.m. – 10:45 a.m.

Choose one to attend

# COLORADO OER CONFERENCE

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### OER or Not: the Game Show

ROOM 104

Join us for a game that answers questions such as:

- Isn't anything under \$40 OER?
- What is "Open" anyway?
- What kind of copyright license does a textbook need to have to be OER?
- Are all OER in digital format?
- Can software be OER?

PRESENTED BY:

**Meg Brown-Sica**  
*Associate Professor &  
Assistant Dean for Scholarly  
Communication & Collections,  
Colorado State University*

**Helen Reed**  
*Dean of Libraries,  
University of Northern Colorado*

### Enhancing the General Education Learning Experience with OER

ROOM 105

Equity in open education is about more than textbook cost; it's also about providing all students with the best learning possible, using open educational resources. This is particularly important for general education curriculum, as students establish a foundation for success in college. This session invites you to think bigger about the power of OER to support effective learning experiences. Explore how to iterate and improve OER using data, learning design, interactivity, technology, and other tools to make learning and teaching with OER everything it can and should be for students and faculty.

PRESENTED BY:

**Julie Curtis**  
*VP Strategy,  
Lumen Learning*

**Sara Swangard**  
*Executive Director,  
Lumen Learning*

### A ripple or a wave of transformation?

ROOM 200B

OER is an incredibly compelling ripple in the educational landscape now. Will it grow into a wave that transforms how institutions teach and learn? Like many technology-based teaching innovations, the greatest part of the value of OER will only be captured through changes to culture, teaching practice, and organizational support. Dr. Shenoy will share frameworks and lessons learned from his work with state-wide OER growth initiatives in Maryland and New York. Questions he will cover include: How can we define OER aspirations? Why is it helpful to take a portfolio approach to OER? What kinds of investments are needed to make OER scaled and sustainable, and how should they be prioritized? What are the best opportunities for cross-institutional collaborations? After the presentation, there will be a Q&A session.

PRESENTED BY:

**Deep Shenoy**  
*Principal,  
Deep Consulting LLC*

### Your choice = our problem: why so many students are #textbookbroke

ROOM 106

In this panel, Alana Lipscomb (*student member, OER Council*) and Jen Mayer (*Chair, UNC OER committee*) will facilitate a conversation with Colorado college students about their experiences with open educational resources, textbooks, paying for college, and a range of other topics.

PRESENTED BY:

**Alana Lipscomb**  
*Student,  
PPCC/UCCS*

**Jen Mayer**  
*Assistant Professor & Head  
of Library Research Services,  
University of Northern Colorado*



## Concurrent Session #2

10:55 a.m. – 11:45 a.m.

Choose one to attend

# COLORADO OER CONFERENCE

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### Use OER Like a Pro

ROOM 104

Two experts (*yes, librarians!*) will share their insider knowledge for locating, adapting, and adopting OER for use in your courses. Attend this session if you are searching for the right materials for your course, and strategies for customizing to your course need and outcomes.

#### PRESENTED BY:

**Brittany Dudek**

*Librarian Coordinator,  
CCCOOnline*

**Meg Brown-Sica**

*Associate Professor &  
Assistant Dean for Scholarly  
Communication & Collections,  
Colorado State University*

### Growing the OER Mindset: Collaboration. Curation. Innovation.

ROOM 105

It's a given. Reducing costs is a must for today's educational settings. Creating an OER Growth Mindset is key for institutions seeking to lower costs for students and for their own bottom line. Learn how the educational arena is successfully leveraging vetted training and educational materials through California State University's SkillsCommons, the world's largest collection of open workforce development training and educational materials and MERLOT, a time-tested open repository of curated online learning materials and content creation tools led by an international community of educators, learners and researchers.

#### PRESENTED BY:

**Maria Fieth**

*Partnership Development  
SkillsCommons,  
California State University*

### Open Education Leadership: National Trends and Best Practices

ROOM 200B

This talk will take a step back into the national perspective on open education policy, practice, and emergent trends that will impact the future of this work in Colorado and beyond. We will cover the latest developments in federal legislation and funding, what kinds of initiatives are happening in other states, and some of the key strategic challenges ahead. It will also offer concrete tools and best practices to support leadership and effective advocacy for open education to benefit students.

#### PRESENTED BY:

**Nicole Allen**

*Director of Open  
SPARC*

### How to Build Your Own OER Program On Campus: Tools and DIY Tricks From Your Orange-Aproned Colleagues

ROOM 106

Join Deborah and Dustin in a hands-on exploration of the tools and practices needed to start an OER initiative at any institution. Learn to use measuring tapes (*data!*), pliers (*great for extracting funds!*), and those really cool pegboards (*organizational structures!*) and gain the skills you need to build your own sustainable OER program. We'll highlight strategies for overcoming barriers to participation and reflect on the times we threw a wrench into the mix or used a hammer that made everything look like a nail (*neither practice recommended*).

#### PRESENTED BY:

**Deborah Keyek-Franssen**

*Associate Vice President for  
Digital Education & Engagement,  
University of Colorado - System*

**Dustin Fife**

*Director of Library Services,  
Western Colorado University*

## Concurrent Session #3

1:10 p.m. – 2:00 p.m.

Choose one to attend

# COLORADO OER CONFERENCE

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### Collective Impact: System Approaches to OER

ROOM 104

OER adoption is on the upswing in Colorado and widespread adoption is crucial if we are to benefit all our students. What better way to achieve that than to work collectively at a multi-campus level to raise awareness, coordinate strategies, and jumpstart OER use? Learn from three Colorado higher education systems and see how you might maximize impact by coordinating OER strategies and processes. Personal stories and recommendations will be woven throughout this interactive session.

#### PRESENTED BY:

**Deborah Keyek-Franssen**  
*Associate Vice President for Digital  
Education & Engagement,  
University of Colorado - System*

**Tina Parscal**  
*Executive Director,  
CCCOnline*

**Jonathan Poritz**  
*Associate Professor in the Department of  
Mathematics and Physics Director and Data  
Analyst Center for Teaching and Learning,  
CSU-Pueblo*

### Open pedagogy and Wikipedia: How students are \*impacting\* public knowledge through open education practice

ROOM 105

Attendees will learn how Wiki Education supports university faculty who are using Wikipedia as a teaching tool to teach students how to research and write about course topics. When instructors engage with Wikipedia as a tool for open pedagogy, students develop media literacy, critical thinking, and writing skills.

#### PRESENTED BY:

**Jami Mathewson**  
*Director of Partnerships,  
Wiki Education*

### Creating an Effective OER Initiative at Your Institution

ROOM 200B

Based on the highly successful OpenStax Institutional Partner Program, Nicole Finkbeiner will utilize her experience working with colleges and universities across the country to outline the key components of a successful OER initiative. She'll cover key metrics, real-world examples of successful strategies, and suggestions on how to adapt an OER initiative to your specific budget and campus culture.

#### PRESENTED BY:

**Nicole Finkbeiner**  
*Director,  
Institutional Relations OpenStax  
Rice University*

### So you've made an OER, now what? Strategies for sharing your OER with the world

ROOM 106

Now that you've created an OER, you might be wondering: where should I share it? In what format? How should I license it? Whether you're creating an OER from scratch or modifying an existing one, there are many different paths you may take to share your OER. Decisions on sharing an OER should include considerations of discoverability, accessibility, and re-usability so you can best serve the end user and enhance your scholarly footprint. This presentation will cover some of the questions you'll want to consider when sharing an original or modified OER. Join this engaging session to learn about and discuss options available for sharing OERs.

#### PRESENTED BY:

**Emily Bongiovanni**  
*Visiting Scholarly  
Communications Librarian,  
Colorado School of Mines*

**Grace Therrell**  
*Library and Information  
Science Student,  
University of Denver*



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**OER for All - Ensuring OER Benefits All Students**  
ROOM 104

This presentation will discuss the issues related to accessibility that can arise regarding the use and creation of OER. A framework with a broad perspective will be shared to advise educational leaders on the administration, policies, and best practices that can be used by an institution to ensure OER is accessible to all students. In addition, specific guidelines and techniques will be shown for those who will be responsible for the coding, development, or adoption of OER materials to ensure they meet accessibility standards/guidelines.

**PRESENTED BY:**

**Marc Nash**  
*OER Specialist/Coordinator,  
Pikes Peak Community College*

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**Creative Commons Licensing -  
The Key Legal Technology Enabling OER**  
ROOM 105

OER differ from a bunch of free textbooks you might find in a dumpster by more than just the smell: OER also have the “5Rs,” the rights to retain, reuse, revise, remix, and redistribute. These rights are guaranteed by Creative Commons (CC) licenses, so instructors who want to adopt or adapt OER created by others, or who want to share OER they create back to the global OER community, need to understand the basics of CC licenses. In this session, we will discuss how to use CC licensed materials properly and how to put appropriate CC licenses on newly adapted or created works.

**PRESENTED BY:**

**Jonathan Poritz**  
*Associate Professor in the  
Department of Mathematics and  
Physics,  
Director and Data Analyst Center  
for Teaching and Learning,  
CSU-Pueblo*

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**Realizing the 5R Dream:  
The LibreTexts’s Quest to Build a Centralized OER Platform**  
ROOM 200B

It is becoming ever clearer that new and innovative educational efforts are required to facilitate the greater creativity, flexibility, and increased learning capability needed for post-secondary education in the future. The Libretxts project (<http://LibreTexts.org>) is designed as a collaborative OER platform to simultaneously enable the dissemination and evaluation of existing resources and as a dynamic “courseware” to facilitate new education developments and approaches, with an emphasis on data-driven assessment of student learning and performance.

**PRESENTED BY:**

**Delmar Larsen**  
*Associate Professor  
University of California, Davis  
Founder & Director of the  
LibreTexts Libraries*

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**Momentum for OER in Colorado is reaching a fever pitch!**  
ROOM 106

In this session, we will brief attendees on the state’s efforts in OER. We will outline the grant program and other parts of the initiative, and also talk about how to write a successful proposal for the \$2 million in grant funding available over the course of the next two years. Bring questions you might have and ideas to share with this statewide steering committee.

**PRESENTED BY:**

**OER Council Members**

## Featured Speakers

# COLORADO OER CONFERENCE

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### **Nicole Finkbeiner**

*Director of Institutional Relations, OpenStax  
Rice University*

Nicole Finkbeiner is the Director of Institutional Relations for Rice University's free textbook initiative, OpenStax, where she founded and runs the nationally-recognized Institutional Partner Program. She also coaches colleges and universities to effectively encourage faculty adoptions of Open Educational Resources (OER) to promote student success and faculty academic freedom. A graduate of Kellogg Community College, Western Michigan University, and Michigan State University, she worked in college relations for community colleges prior to joining OpenStax. When not promoting OER, Nicole fills her time working on civil rights issues, traveling, reading, staying healthy, and dragging her friends and family to random cultural events.



### **Deepak Shenoy**

*Principal,  
Deep Consulting LLC*

Deepak "Deep" Shenoy has a PhD in the social sciences and extensive academic teaching experience. He was formerly an associate partner at McKinsey & Company. He is an expert in strategy and change management for higher educational institutions. He has supported ~100 campuses in adopting OER. You can learn more about his background on LinkedIn. Twitter: @deepshenoy



### **Nicole Allen**

*Director of Open Education,  
SPARC*

Nicole Allen is the Director of Open Education at SPARC, an international alliance of academic and research libraries working to make open the default in research and education. Nicole is an internationally-recognized policy expert and leading voice for open education. She has written extensively about higher education affordability and how technology can expand educational opportunities for all students. She has successfully championed federal and state policies that advance open practices, engaging grassroots support from students and academic libraries. Inspired by the idea of open education during her own days as a student, Nicole has devoted her career to building an international movement and remains active in training new leaders in this space.



### **David Ernst**

*Executive Director,  
Open Textbook Network*

David is graduate faculty and Chief Information Officer in the College of Education and Human Development at the University of Minnesota. David is the Director of the Center for Open Education and the Executive Director of the Open Textbook Network, which works to improve higher education through the advancement of open textbooks.