



ACADEMIC SENATE FOR CALIFORNIA COMMUNITY COLLEGES

Academic Senate for California Community Colleges  
Open Educational Resources Initiative

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# Executive Summary

## ACCOMPLISHMENTS TO DATE

After three years in existence, the Academic Senate for California Community Colleges Open Educational Resources Initiative (OERI) has facilitated Open Educational Resources (OER) awareness, adoption, and development through professional development and training for faculty from across the state; increased the availability of OER through visibility and accessibility efforts; developed and implemented a Request for Proposals (RFP) process that supports faculty development of quality OER with an emphasis on meeting statewide needs; formed a network of OER advocates across the system; established an infrastructure for ensuring effective two-way communication between the OERI and the colleges; advocated for improvements in tracking OER adoption and ensuring textbook cost transparency; and launched a forum for cross-initiative and interdisciplinary OER discussion and collaboration.

Highlights of this work include the following:

- Facilitated the awareness, adoption, and adaptation of OER through the hosting of over 135 general, discipline-specific, and tool-specific webinars that have been attended by over 2100 faculty. In addition, 56 webinars were hosted for local OER advocates (OER Liaisons).
- Supported the development of 65 new OER.
- Identified – and supported - OER Liaisons at each of the colleges to ensure on-going communication between the OERI and local faculty and college colleagues.
- Established a team of over 30 Discipline Leads to curate existing OER and facilitate OER awareness and adoption.
- Created a website ([asccc-oeri.org](http://asccc-oeri.org)) to promote OER and simplify the identification of available OER by providing easy access to OER resources organized by discipline, general education area, and Transfer Model Curriculum.
- Developed a wide array of resources to support OER-related work, including two self-paced courses (OER Basics and Accessibility Basics), a series of OER “Quick Guides” on OER-related topics that can be accessed online or printed for local use, a variety of resources for OER developers, and an ever-expanding collection of resources to support local OER advocacy.
- Developed a framework for reviewing and revising OER and other course resources to ensure that they are inclusive, diverse, equitable, and anti-racist ([ASCCC OERI IDEA Framework](#)). Future supported projects will integrate this framework and existing resources will be reviewed for modification by applying it.
- Initiated the development of discipline-specific communities of practice to support faculty OER efforts.
- Tracked and supported the implementation of California Education Code 66406.9 that requires the colleges to identify Zero Textbook Cost (ZTC) course sections in their online course schedules.
- Collaborated with representatives from the California State University and the University of California to host

Cal OER, a free OER conference intended to highlight the state's OER/ZTC work and attended by over 400 faculty.

- Developed and piloted an OER/ZTC student impact survey to assess the impact of textbook costs and OER/ZTC materials on California Community College students.
- Collaborated with national and international OER groups to connect California faculty to broader support structures.

## RECOMMENDATIONS

- Continue to fund the OERI to ensure the statewide availability, promotion, and adoption of OER.
- Develop a long-term plan for OERI that includes the implementation of a process for the updating of OERI-supported resources.
- Increase funding to maintain coordinated efforts to sustain, curate, and develop OER.
- Continue to assess and meet the OER-related needs of faculty in the California Community Colleges with an emphasis on collaboration with the California Community Colleges Chancellor's Office (CCCCO) and the colleges as they work to achieve the goals of the Zero Textbook Cost Program.
- Advocate for and provide assistance to the CCCCCO and colleges regarding the implementation of a section-level

data element that would simplify the collection of both OER and ZTC data, as well as related requirements, regulations, and laws intended to decrease textbook costs, increase cost transparency, and protect students.

- Invest in accessibility advances in identified openly licensed homework systems.
- Implement a state-wide survey of students to assess the impact of textbook costs and measure the effectiveness of using OER/ZTC as an alternative to commercial textbooks.

## FUTURE DIRECTIONS

- Work with bookstores and printing partners to simplify access to print-on-demand options for students seeking access to printed resources.
- Expand outreach to students by involving them in the review of OER and by expanding guidance to colleges regarding approaches to involving students in their OER efforts.
- Establish a statewide recommendation for a low-cost textbook value in consultation with the Student Senate for California Community Colleges and work with discipline faculty to identify low-cost options.

# Introduction

## BACKGROUND

The Academic Senate for California Community Colleges (ASCCC) was allocated funds by the California legislature in trailer bill language during the summer of 2018 to promote and develop Open Educational Resources (OER) as referenced in Assembly Bill 1809 (Higher education trailer bill, 2017-2018):

This bill would appropriate \$6,000,000 from the General Fund to the Board of Governors of the California Community Colleges for the 2018–19 fiscal year for allocation to the Academic Senate for the California Community Colleges to support the development of, and the expansion of the use of, open educational resources for the California Community Colleges. The bill would require the Academic Senate for the California Community Colleges to submit a report to the Legislature and the Department of Finance on or before February 1, 2022, including specified data related to the progress of supporting and expanding the use of open educational resources pursuant to the bill. The bill would specify that the funds allocated to community college districts pursuant to this bill for the above specified purposes would be applied toward the minimum funding requirements for school districts and community college districts imposed by Section 8 of Article XVI of the California Constitution.

The Academic Senate responded to the legislation by establishing the Open Educational Resources Initiative (OERI), a state-wide faculty-led effort which was formally launched with a webinar on February 1, 2019. Open Educational Resources (OER), as defined by OER Commons, refer to teaching and learning materials that are freely available online for everyone to use and includes course modules, lectures, homework assignments, lab and classroom activities, pedagogical materials, games, simulations, and many more resources contained in digital media collections from around the world. OER most often refers to openly licensed textbooks and ancillary materials readily available to students and faculty.

The benefits of OER were succinctly summarized by the Legislative Analyst's Office in a 2016 analysis ([\*\*The 2016-17 Budget: Assessing the Governor's Zero-Textbook-Cost Proposal\*\*](#)):

The use of free materials in place of textbooks sold by publishers

- reduces students' cost of attendance,
- increases access to instructional materials, and
- can improve teaching effectiveness and efficiency.

The OERI's mission is to reduce the cost of educational resources for students by expanding the availability and adoption of high-quality OER. The OERI facilitates and

coordinates the curation and development of OER texts, ancillaries, and support systems. In addition, the OERI advances local OER implementation efforts by offering training, professional development, technical support, and technical resources.

Funding of the OERI is disbursed by the California Community Colleges Chancellor's Office (CCCCO), and the OERI makes regular reports to the CCCCCO. While the COVID pandemic elevated the importance of – and interest in – OER, the temporary move away from in-person events reduced the costs of the OERI's work. Therefore, the OERI requested and received an extension of the time allocated to spend the funds for its work by twenty-four months to June of 2025. Those savings can now be used to fund the OERI for an additional two years. This additional time will allow the OERI to more fully realize its potential, furthering the development and adoption of OER resources, and achieving the goal of establishing a sustainable statewide commitment to OER.

The proposal submitted by the ASCCC envisioned that the OER would take a statewide approach to identifying and meeting OER needs, emphasizing systemic commitment to OER to establish a sustainable OER ecosystem, and collaboration among faculty and existing OER and OER-related projects in California. The OERI's focus on collaboration has not been limited to the California Community Colleges. Rather, efforts to serve all segments of higher education resulted in CalOER, an intersegmental virtual conference in August of 2021. The inaugural conference brought together faculty from public and private institutions in

California and beyond. As the California Community College system has now been allocated unprecedented funding to expand the availability of Zero Textbook Cost (ZTC) certificates and degrees, the OERI is prepared to support the sustainability of this work by identifying and developing OER resources that can be adopted by faculty.

The OERI has also supported related initiatives, legislation, and system goals, with OERI's most recent work on developing the **ASCCC OERI Inclusion, Diversity, Equity, and Anti-Racism (IDEA) Framework** (available at [tinyurl.com/OERI-IDEA](https://tinyurl.com/OERI-IDEA)). The IDEA Framework is designed to assist faculty as they implement a culturally responsive and anti-racist pedagogy. Initially, it will be used to evaluate existing OER to ensure that ASCCC OERI-supported open educational resources are inclusive, diverse, equitable, and anti-racist (IDEA). The framework is intended to be shared more broadly to support faculty as they review and update all their course resources. The focus on IDEA is aligned with the renewed commitment to equity that has emerged over the past few years and supports both Guided Pathways and attainment of student equity and success goals, at the colleges and statewide, as described in the CCCCCO Vision for Success.

The report that follows reflects the work of the OERI through the end of 2021 and, following an overview of the challenges in tracking the use and impact of OER and the OERI's advocacy efforts as they related to textbook affordability and transparency, is organized around the objectives identified in the proposal that was used to fund the OERI.



# OER in the California Community Colleges

## TRACKING OER ADOPTION AND MEASURING THE IMPACT OF OER

Although OER has been around for many years, determining the extent of OER adoption in the California Community Colleges and its impact on students is complicated by several factors including:

- the lack of a centralized mechanism for reporting such adoptions,
- the diversity of the colleges with respect to their size and curriculum, and
- the many options faculty have when selecting course materials and resources.

### Lack of a Reporting Mechanism

Among these factors, the most impactful to the work of the OERI is the lack of a mechanism for capturing the number of OER adoptions within the California Community College system. Such a mechanism would enable colleges to report when a course section is being taught using OER, thereby connecting OER adoption data to specific course sections such that the number of students impacted can be quantified. This would not, however, provide information regarding the specific OER (the actual resource) being used. Regardless, the benefits of being able to track OER adoption is so important to the work of the OERI that it has made advocating for establishing a section level data element that would facilitate the centralized collection of OER adoption

information a priority for the initiative. A data element that can both track OER adoptions and identify sections that are ZTC (Zero Textbook Cost) would enable the system to not only quantify the impact of these efforts on students, but also increase accountability for the colleges.

### College Size and Diversity

The varied sizes of the colleges and the diversity of their curriculum complicate efforts to make cross-college comparisons with respect to the rate of OER adoption. The number of faculty at each college and the number of sections offered of any one course can vary greatly, because of both the college's size and nature of its course offerings.

A college reporting, for example, that all sections of a course are ZTC could mean very different things. At a small college, all sections of a given course might be taught by a single faculty member. Consequently, achieving 100% ZTC sections for that course requires the commitment of a single faculty member. At present, for example, 100% ZTC for all sections of public speaking has been achieved at ten colleges, with the number of marked sections ranging from 1 to 48. It should be noted that OER is one way for a section to achieve ZTC status however colleges may also achieve ZTC status by purchasing resources for those sections, resulting in zero cost for students.



**California Community Colleges Reporting 100% Zero Textbook Cost Sections for Public Speaking (Fall 2021 or Spring 2022)**

College	Sections
Irvine	48
Moorpark	47
Butte	28
West LA	22
Ventura	20
Mission	17
West Hills - LeMoore	9
West Hills - Coalinga	3
Lassen	2
College of the Siskiyous	1

## Resource Options

Determining the true impact of OER or ZTC on students requires not only an accurate count of students, but also information as to the cost of the commercial resources being replaced. As an example, below are data regarding the resources being used by faculty at one college to teach public speaking, a course taught at all 115 degree-granting community colleges. The cost of the texts for such a course at this one college varies from \$0 to \$200 and four sections of students are impacted by one faculty member's decision to use an expensive text. It is evident from this example that calculating the impact of OER on savings for students is very different depending on what that OER is replacing.

Textbook cost	Number of sections (number of faculty)
\$150 - \$200	4 (1)
\$60	7 (1)
\$23.30 - \$58.25	3 (3)
\$18.75 - \$25.00	4 (1)
\$0	5 (4)
Unknown	6 (3)

## Measuring the Impact of OER

Despite the challenges involved in tracking adoption and measuring the impact of OER, the OERI has compiled, through indirect methods, extensive data on the marking of course sections as ZTC and the presumed use of OER. These data highlight the impact of the state's efforts to reduce textbook costs and can assist in persuading faculty to consider OER or other means of reducing textbook costs, promoting educational equity and supporting student success. Once a count of OER sections is obtained, estimated student counts and resource costs can be used to provide an estimate of the dollars saved by students.

Prior to the OERI's most recent data collection, a rough estimate of the impact of OER adoption on students in the California Community Colleges was obtained by using adoption data from OpenStax (Appendix A). OpenStax is a popular OER publisher that simplifies OER adoption by providing various ancillaries and simplifying access to printed resources. Across 35 titles, OpenStax reported 1368 adoptions at California Community Colleges in 2020-2021.

If it is assumed that each adoption represents use by one faculty for one section for one term, the dollars saved by students can be estimated by approximating the size of each section and the cost of the text. Textbook costs vary widely by discipline and course. Estimates for a generalized average cost across all disciplines range from \$50 - \$100. If we use the lowest estimate of \$50 and presume each section consists of 30 students, the savings would be \$2,052,000.

By this estimate, students saved over two million dollars if these data represent just one adoption by one faculty member for a single term. This calculation is intended to highlight the sizable impact that OER is already having on California Community College students, even when considering only one OER publisher and intentionally providing a low estimate.

Using the same approach with the data collected by the OERI based on college schedule information for 18 courses (Appendix G), it is estimated that the availability of ZTC course sections saved students over \$5,631,000 during one term in the 2021-2022 academic year.

Of the 115 colleges in the OERI's schedule analysis, nine colleges were excluded including two that were purchasing all texts for students and seven others that could not be analyzed. The OERI considered just eighteen courses and identified 3754 ZTC sections. If each section consists of 30 students and the required text would normally cost \$50, the savings would be \$5,631,000.

## OER ADVOCACY, TEXTBOOK AFFORDABILITY, AND COST TRANSPARENCY

The OERI did not anticipate that data collection would be a challenge because federal law effectively requires colleges to make textbook cost information available to students at the time of registration. College compliance with two existing requirements would have simplified the necessary data collection. Specifically,

- the federal requirement that colleges provide textbook information in their online schedules at the time of registration (read more at [tinyurl.com/TextLeg](https://tinyurl.com/TextLeg)) and
- mark no-cost (ZTC) course sections as required in California law (**California Education Code 66406.9**).

Even though the requirement to include textbook costs in class schedules is over a decade old, many colleges fail to provide this information.

Since its inception, the OERI has focused on facilitating the marking of ZTC sections, as it is a newer requirement and more directly linked to the work of the OERI. In the fall of 2018, the ASCCC initiated an annual survey to track the implementation of this legislation. The findings of this survey tracked the progress of the colleges over time as they moved from focusing on the technical how of adding a ZTC marker to their online schedules to determining what criteria should be used to decide if a course section will receive that designation and how to integrate this identification into a college's existing processes.

Survey results indicate that challenges with implementing the ZTC marker emerge at every step of the process, from how to identify the sections that receive the mark to making the mark visible in online class schedules. At the first step, there is ambiguity regarding whether sections without a textbook should be marked ZTC as the legislation specifically references sections using digital resources. Additionally, the process used to identify the sections that receive the mark is frequently disconnected from the process of adopting a commercial text, requiring faculty to report their selection of OER using two different processes to ensure that the section receives the ZTC mark and that the bookstore has the necessary information. A wide array of practices exist in marking ZTC sections and although some are effective, others are problematic. Although there are examples of effective practices to act as models, over 30 of the colleges were not compliant when Fall 2021 schedules were initially reviewed. An examination of

Spring 2022 schedules suggests that progress is being made to rectify the issue.

While the OERI will continue to work with faculty at the colleges to address these issues, it is also advocating for the development of ZTC section-level MIS data element that colleges must implement to access ZTC degree development funds (when the data element is available for implementation). The requirement to implement a data element would elevate schedule-related textbook issues that are often overlooked, if not neglected. The implementation of a data element would facilitate the collection of data related to the effectiveness of the ZTC funds, ensuring consistency in reporting. At present, the metrics delineated in the bill language would be impossible to track in a meaningful way. As a consequence of observing local struggles to implement a ZTC mark in course schedules, the ASCCC has proposed the development of such a data element (**Advocate for Development of a ZTC Data Element, Resolution 11.02, Spring 2021**).

## OERI Objective 1 - Identify Gaps in OER Availability and Barriers to OER Adoption

While the identification of gaps in OER availability would seem like a simple task, it is complicated by the ever-changing availability of OER, instructor preferences, and the challenge of differentiating between the lack of availability and the lack of awareness. The OERI has employed many different approaches to identifying OER gaps and barriers including conducting system-wide surveys; convening discipline faculty; and employing Discipline Leads to

curate OER, provide professional development, and build communities of practice to foster OER awareness and support adoption. In addition, the OERI's Request for Proposals (RFP) process has provided a unique way of assessing the interests and needs of faculty and schedule reviews provide a mechanism for quantifying OER use for specific courses as specified by the Course Identification Numbering System (C-ID; c-id.net)

## APPROACHES TO IDENTIFYING GAPS AND BARRIERS

### System-wide Surveys

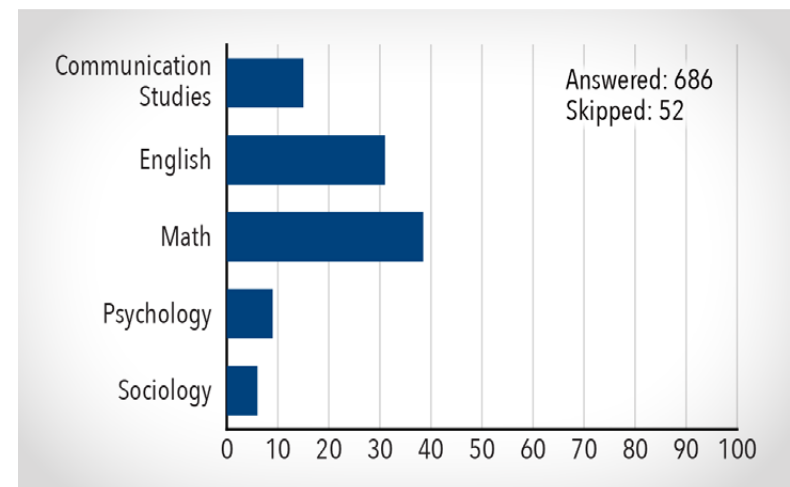
In early 2013, the ASCCC surveyed faculty in preparation for the implementation of Senate Bills 1052 and 1053 (Steinberg, 2012; codified in California Education Code 66409 and 66408, respectively), which established an intersegmental council to identify and develop OER and a digital library to house these resources.

The 2013 survey provides baseline OER-related measures in advance of the work initiated in response to the Steinberg bills and the other textbook affordability legislation that followed. Only 471 faculty responded. Of these, 95 (20%) reported using OER in lieu of – or in addition to – a commercial text. 32 (~ 7%) reported using OER in lieu of a text. The low response rate to the survey is likely a reflection of the status of OER at the time.

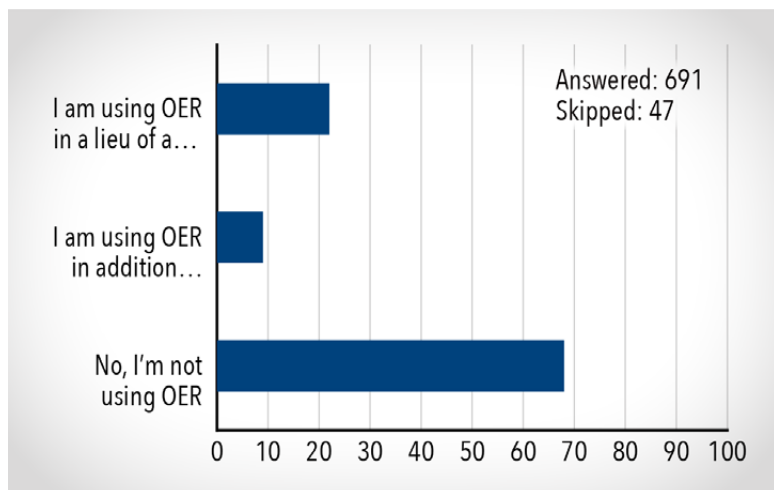
Subsequent surveys included many of the same questions asked in the 2013 survey so that responses could be compared over time. In 2017, just prior to the launch of the OERI, the ASCCC conducted a similar survey of faculty in 5 disciplines, over 20% of over 690 respondents indicated they were using OER in lieu of a text. In comparison to the 2013 survey, the response rate increased dramatically although the pool of potential respondents was narrowed and, more importantly, the percentage of respondents that were using OER almost tripled.

These survey data demonstrate that the use of OER increased considerably in a relatively short period of time. In addition, it is likely that many of the respondents in 2013 were the faculty who were aware of and interested in OER. In contrast, the specific disciplines selected for the 2017 survey were those that participated early in the development of Associate Degrees for Transfer (ADTs; communication studies, psychology, and sociology) and disciplines that teach a wide array of courses with unique challenges regarding OER adoption (English, math). In other words, the documented change is significant as the responding populations were likely to bias the data such that any differences would be minimal (i.e., respondents in 2013 were more likely to be using OER while the opposite was true of the largest disciplines surveyed in 2017, English and math).

**2017 Survey Respondents by Discipline**



**Are you currently using OER in lieu of or in addition to an assigned text?**



OER data collection and conversations have benefitted from the existence of the Course Identification Numbering System (C-ID). C-ID descriptors delineate course objectives, content, methods of evaluation, and acceptable texts and therefore provide a mechanism for identifying comparable courses that are being taught by faculty at virtually all the system's 115 degree-granting colleges. As the C-ID System's work moved beyond its initial focus on transfer disciplines, the California Community Colleges have an ever-expanding library of descriptors that can be used to facilitate collaborative efforts to identify, adapt, and develop OER. Furthermore, the C-ID work resulted in the development of discipline-based listservs that can be used to recruit faculty as needed.

Since the OERI's inception, faculty in 27 different disciplines have been surveyed regarding OER usage and general awareness since Fall 2018 through the ASCCC C-ID listservs.

## Discipline Leads

To ensure the work of the OERI is informed by feedback from discipline faculty, Discipline Leads were recruited and trained to assist in the identification of discipline needs and to serve as a resource to the OERI, discipline faculty, and the colleges. Discipline Leads identify available OER, review the OER listed in the California Open Online Library for Education (COOL4Ed; the digital library developed as required in California Education Code 66408), host webinars, and facilitate the creation of discipline OER collections and, when available, by Transfer Model Curricula (TMCs) that provide the framework for Associate Degrees for Transfer that guarantee student admission to a California State University.

The outcome of the work of the Discipline Leads is 27 comprehensive discipline collections available on the ASCCC OERI website which organizes available OER by title and/or Course Identification Numbering System (C-ID) descriptor designations. There are currently 25 available TMC and OER comparison documents on the ASCCC OERI website. Courses without sufficient OER are a high priority for OER development.

## Discipline Meetings (in-person)

Since its inception, the OERI has hosted in-person meetings for a variety of disciplines. Some disciplines were convened to explore their unique OER challenges (e.g., accounting, music). Math and other disciplines that teach statistics were convened to provide training on the use of an openly-licensed homework system (MyOpenMath). Others were selected to provide an opportunity to discuss potential OER

projects, and all meetings provided an opportunity to not only provided basic OER training, but to learn from the discipline faculty. The in-person discipline meetings pre-date the establishment of a formalized Discipline Lead role. Attendance data has been captured for the OERI's in-person convenings of faculty in the following disciplines:

- Accounting - 11
- Anthropology - 10
- Biology - 18
- Early Childhood Education/Child Development – 30
- Math - 26
- Math (MyOpenMath) – 85
- Music - 11
- Nursing - 14
- Psychology - 9

These meetings provide an opportunity to share OER and identify needs. In addition to discipline-focused in-person events, the OERI has had an opportunity to interface with faculty in all disciplines via ASCCC events and OER Regional Meetings.

### **Discipline Meetings (virtual)**

The OERI has used webinars and other online events to maximize opportunities for faculty participation. During 2021, webinars were actively employed by the Discipline Leads to provide a forum for the discussion of gaps, barriers, and opportunities. These webinars have helped develop cross-district communities of practice within disciplines. The events hosted by the OERI Discipline Leads can be

found in Appendix D and the status of each of the disciplines is summarized in Appendix E.

### **The Request for Proposals Process**

In early 2019, OERI conducted its 1<sup>st</sup> Request for Proposals (RFP) process. The initial, and subsequent, RFPs have provided the OERI with a wealth of information regarding discipline interest in OER and OER needs. During the 1<sup>st</sup> RFP, faculty in 44 disciplines from 56 colleges submitted proposals, demonstrating that a wide array of disciplines were interested in OER and that the OERI was effectively connecting with the colleges as the RFP opportunity was made available during the same term that the OERI launched. Proposals that focused on developing ancillaries for specific OER demonstrated that text-equivalents were available and were being used for some courses. And the robust response of specific disciplines, such as anthropology, English, and math suggested disciplines with both interest and needs.

### **Schedule Data Analysis**

The OERI anticipated that tracking the adoption of OER could be achieved by tracking the presence of a the legislatively required no-cost (Zero Textbook Cost or “ZTC”) mark on course sections in combination with information regarding required course materials in online course schedules. As of January 1, 2018, the colleges were required to “Clearly highlight, by means that may include a symbol or logo in a conspicuous place on the online campus course schedule” ([California Education Code 66406.9](#)). This mandate builds on an existing requirement that colleges provide information about the course materials that students must purchase in the course schedule. Institutions of higher



education that receive financial assistance from the federal government have been required to “ensure that students had access to textbook information at the time of registration” for over a decade (Appendix F).

Despite the existing requirements, implementation of a ZTC mark and the provision of course cost information is not consistently available across the colleges. As discussed earlier, the OERI has sought to facilitate the implementation of a ZTC mark and has documented the progress of the colleges. Most recently, the OERI has conducted a review of course schedules to determine the extent of OER use for specific courses. These data can be used to provide a measure of OER adoption at a given college, as well as an indication of which courses are currently well-served by OER. A lengthy overview of the summary data provided below can be found in Appendix G.

The table that follows provides a snapshot of the data gathered by manually reviewing the schedules of 106 of the colleges. “Number of Colleges” refers to the specific number used in the analysis as not all colleges have all courses and a specific course may not have been taught in the term used for the analysis. “100% ZTC” indicates the number of the colleges in the analysis that indicated all sections of the course were ZTC. The final column “At Least One Section ZTC” is the percent of the colleges included in the analysis that offered at least one section of the course that is ZTC. It is hoped that this number can be used as an indicator of how well-served a course is by existing OER options, presuming that ZTC status has been achieved via OER. The courses included in the analysis meet a variety of

curriculum requirements and demonstrate courses that are well-served by available OER as well as those that are not.

#### ZTC Schedule Analysis Summary Data

Discipline	Course	Number of Colleges	100% ZTC	At Least One Section ZTC
Accounting	Financial Accounting	106	4	13%
Art History	Understanding Art	58	3	12%
Art History	Survey of Western Art	83	12	26%
Business	Introduction to Business	105	8	35%
Chemistry	General Chemistry for Majors	97	8	13%
Communication Studies	Public Speaking	106	10	77%
Communication Studies	Interpersonal Communication	89	10	34%
Economics	Principles of Microeconomics	102	11	25%
English	College Composition	106	2	62%
History	US History to 1877	102	8	53%
History	US History from 1865	98	8	48%
Math/Various	Statistics	105	6	56%
Math	Differential Equations	75	7	13%
Physics	Calculus-Based Physics	95	10	16%
Political Science	American Government	101	10	54%
Psychology	Intro Psychology	106	8	67%
Sociology	Intro Sociology	106	6	60%
Sociology	Social Problems	99	8	25%



## BARRIERS TO OER ADOPTION

There are numerous perceived and actual barriers to OER adoption. As with the gaps in OER availability, these barriers are ever-changing. Below are a few of the more significant barriers that the OERI is working to address. Note that some of the barriers are also gaps in OER availability.

### **Lack of Awareness**

The primary barrier to OER adoption is a lack of awareness of available resources – a barrier readily addressed through the various outreach activities that are on-going functions of the OERI. The OERI's professional development efforts also allow misconceptions about OER to be addressed, including concerns about the quality of existing OER.

### **Lack of Quality OER and Ancillary Resources**

A comprehensive analysis of the available resources for some disciplines indicates a lack of quality OER text equivalents for specific courses and missing ancillary resources deemed critical by discipline faculty. Thus, while many courses are well-served by existing OER, there are courses that have a clear need for resources. The OERI is identifying specific gaps and supports faculty in the development of needed resources.

## **Homework Systems**

While many ancillary needs, such as test banks and sample assignments, are often easily met, the more daunting barrier is one that impacts specific disciplines that are reliant upon homework systems. Fortunately, there are OER options to address this need, but they are often held to a higher standard than comparable commercial resources. Most notably, the use of a system with known accessibility issues is generally not questioned when that system is provided by a commercial publisher. As the OERI works to ensure that all the resources it supports are accessible, a significant amount of effort has been spent on improving the accessibility of openly licensed homework systems used by California Community College faculty.

## **OER Usage and Adoption Data**

As noted, the OERI anticipated that existing requirements related to providing textbook information at the time of registration would simplify the gathering of OER usage and adoption data. While the OERI must currently rely on labor-intensive reviews of course schedules and self-reports, it is hoped that the implementation of a section-level data element will simplify the collection of these data moving forward.

## OERI Objective 2 - Fill Gaps in OER Availability

### OERI SUPPORTED OER PROJECTS

To address the gaps in OER availability, the OERI implemented a Request for Proposals (RFP) process to identify OER projects for funding. Through this process, the OERI has supported 63 projects over three separate funding cycles (Appendix H). As of October 2021, 44 of the funded projects are complete and available for faculty access on the ASCCC OERI website. Funded projects vary in scope and include both the development or adaptation of openly licensed textbooks (26), ancillaries (23), or both (14) for 30 different disciplines. Many of the developed OER were also designed to support more than one course. In total, OERI funded 63 projects intended to support 55 unique C-ID descriptors included as required courses in 32 Associate Degrees for Transfer, and 16 supported a course or courses offered at a wide number of colleges but without a descriptor.

While the OERI's first funding cycle offered individual faculty an opportunity to be funded for a short-term low-cost project, subsequent cycles have focused on longer-term projects and have required that projects involve a team of faculty. Specifically, these projects must involve a minimum of three faculty from different districts who are all potential users of the resource. This requirement was implemented to ensure that OERI-funded work would meet the needs of faculty more generally, as opposed to the needs of one faculty member, department, college, or district. Project leads were required to include California Community College faculty to ensure that the proposed OER would meet the

needs of California faculty. In total, 273 unique California Community College faculty have participated in some capacity in the development of the OERI's supported OER. An additional 18 other faculty have collaborated on OERI's funded projects.

Anecdotal data through continued conversations with the project leads, webinars by Discipline Leads, and dissemination of newsletters introducing the new resources suggest that these OER have been widely adopted, including out of state adoptions, however formalized data gathering is needed. Next steps for data collection include proactively tracking adoption rates and calculating associated savings for students in courses that adopt an OERI-supported resource.

With each iteration of the RFP process, modifications have been made to improve the outcomes. Changes have been implemented with respect to not only the criteria for the receipt of funding, but how the projects are supported and held accountable. RFP II included elements such as regular check-ins, identified interim products, and an emphasis on accessibility. RFP III benefitted from the addition of required training for project leads and their teams; all were required to complete self-paced training on OER basics and accessibility.

RFP IV was published in late November of 2021. This latest RFP requires the aforementioned collaboration among faculty across at least three different districts and, for the

first time, the inclusion of an equity component is explicitly required. Applicants are expected to integrate efforts to address inclusion, diversity, equity, and anti-racism (IDEA) in their projects and directed to the [ASCCC OERI IDEA Framework](#) as a resource. As it is the OERI's goal to ensure all funded projects are successfully completed, the OERI has strived to formalize the development process, creating style guides, and employing a centralized tracking platform.

### OERI FACILITATED DISCIPLINE PROJECTS

The ASCCC OERI has also identified specific gaps within certain disciplines and recruited discipline faculty to develop OER to fill these gaps. ASCCC OERI Project Facilitators oversee the development of these projects by facilitating planning and training for the authors. As of October 2021,

two facilitated development textbook projects are underway: (1) Interpersonal Communications (C-ID COMM 130) and (2) Introduction to Biological Psychology (C-ID PSY 150). Both fulfill requirements in Associate Degrees for Transfer and are expected to be widely adopted by discipline faculty.

### DISCIPLINE COMMUNITIES

As the Discipline Lead role has evolved and the number of discipline leads has expanded, these faculty are not only identifying resources and gaps in OER, but they are also in the process of developing discipline communities to facilitate OER awareness and to create opportunities for collaboration. During the 2021 fall term, each of the Discipline Leads developed a plan for moving their discipline forward that would be implemented in 2022.

## OERI Objective 3 - Address Barriers to OER Adoption

As awareness has been identified as a primary barrier to adoption, the OERI made the establishment of a communication infrastructure a priority in its first year. This involved securing a local OER Liaison at each community college who is connected to their local academic senate, to ensure the OERI's messages are being received by faculty at the colleges and to ensure that the OERI is informed of local

needs. The OER Liaison for each college is identified in the ASCCC College Directory and receives regular and ongoing communication from OERI. In addition, each OER Liaison has an OERI Regional Lead that is their primary point of contact. The OERI's communication infrastructure, events, and regular communications ensure on-going two-way communication between the colleges and the OERI.

## OERI Objective 4 - Ensure the Existence and Sustainability of OER Homework Systems

As previously noted, a significant barrier to OER adoption for some disciplines is the need for a homework system. The OERI has identified four solutions to assist with meeting the need for homework systems, MyOpenMath, H5P, LibreTexts, and Canvas.

MyOpenMath is an openly licensed homework platform that California Community College faculty had been populating with content prior to the OERI's inception to meet the unique needs of math classes. The OERI has worked with the platform to ensure its accessibility. The OERI developed training to support faculty in developing accessible activities within the platform and it has supported the expansion of activities within the platform to include resources to support the teaching of astronomy and physics. The OERI now has a designated MyOpenMath Lead, allowing for the development of additional webinars and trainings to support faculty with the implementation of this platform, which removes a barrier to achieving ZTC status for a number of disciplines.

Faculty in world languages, career technical education ("CTE"), and other disciplines have identified H5P as a platform that can meet their unique needs. H5P allows for the development of a variety of interactive activities that can be used as stand-alone practice opportunities for students or integrated into the teaching of a course as homework. The OERI has evaluated the accessibility of this platform

and trains faculty in the selection and development of accessible activities. The OERI is also working with the H5P platform developers to improve the accessibility of additional activity types. As with MyOpenMath, the OERI has a designated H5P Lead who serves as a resource to colleagues and the OERI.

Both H5P and MyOpenMath are available via the LibreTexts platform, as are other openly licensed systems. As there are no costs associated with using LibreTexts, the OERI has relied heavily on this sophisticated OER platform. The technology investments made by LibreTexts allow the OERI to benefit from resources that would typically exceed the OERI's budget. While there may be a cost associated with using elements of LibreTexts in the future, it is the only OER platform that currently offers an extensive array of features at no cost, from important elements like homework systems and interactive tools to print on demand options and easy OER import into a course management system.

Canvas is the course management system used by all the California Community Colleges. While not technically considered a homework system, it is used by faculty to provide learning resources and homework assignment for students. The OERI has supported the development of openly licensed Canvas course shells containing learning activities that can be used by faculty across the system.

## OERI Objective 5 - Support Local OER Efforts

The ASCCC OERI has created a network of OER Liaisons throughout the colleges. In addition to events designed for a general audience (e.g., the OERI's Weekly Webinars), webinars, conversations, and office hours are available to the OER Liaisons who also receive a stipend with specific responsibilities to be completed in the liaison role. OER Liaisons are required to attend a specified number of OERI events each term and are expected to distribute OERI communications to their faculty and college colleagues as well as encourage communication, questions, and concerns about OER. Each OER Liaison is assigned to an OERI Regional Lead who serves as their primary contact for the OERI and who shares their colleges' needs, questions, and accomplishments with the OERI. New resources are developed to support the work of the OER Liaisons as needs are identified. It is the OERI's goal to support the OER Liaisons to effectively operate as local OER advocates to ensure the sustainability of the OERI's work and local OER efforts. While there is some turnover among the OER Liaisons at the colleges, most of the Liaisons have been in the role for well over a year. On average, OER Liaisons have been in the Liaison role for five terms. This has allowed for greater consistency and progression with OERI goals. As of the fall 2021 term, 120 liaisons are supporting OER work at 112 colleges. The number of liaisons exceeds the number of colleges due to several colleges choosing to have the role shared by more than one faculty. In addition to providing general support to OER Liaisons, the OERI recently piloted a process for engaging students with a group of OER Liaisons.

### OERI STUDENT IMPACT PROJECT

The OERI Student Impact Pilot Project consists of OERI Liaisons from nine colleges across the state who developed a student textbook impact survey and will develop student storytelling videos about textbook costs and OER. The survey measures the financial impact and digital challenges that commercial textbooks may create for students. The videos will highlight how OER directly impacts student success and builds a more equitable textbook landscape.

In Fall 2021, these liaisons met twice monthly to brainstorm, develop, and pilot a student survey. In the pilot phase, over 200 students responded. Data analysis of those responses is currently in progress. The survey will be sent out widely across the nine represented colleges in Spring 2022. Subsequently, the liaisons will interview students and create student experience videos highlighting how OER and textbook costs have impacted their education.

The final product of the project will be a survey tool usable across all the community colleges (with pilot survey results from the nine colleges), suggestions for administering the survey, sample student experience videos, and a toolkit for faculty to create similar videos at their campuses. Following the completion of the project, faculty (and potentially students) would share these resources at their campuses and through state-wide webinars offered by the ASCCC OERI.

## THE ASCCC OERI WEBSITE

The ASCCC OERI website ([asccc-oeri.org](http://asccc-oeri.org)) is an ever-evolving resource for faculty in the California Community Colleges and others interested in OER. Information and resources on all aspects of OER are developed and added to the website on a regular basis for anyone to access and use. The OERI website provides general information about the OERI (About Us), resources for OER Liaisons, resources for OER developers, archives of past events and a schedule of future events (Webinars and Events), Resources, and access to the ASCCC Professional Development College.

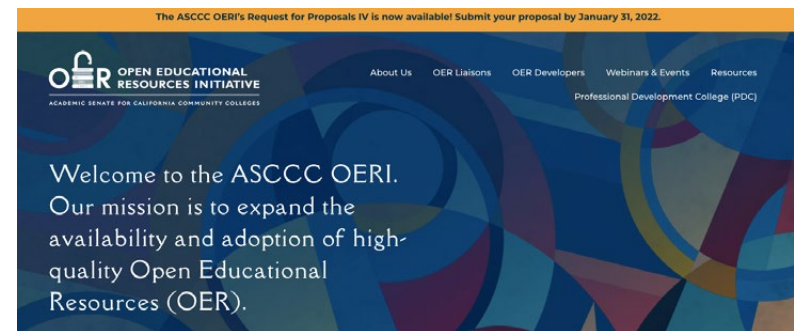
The Resources section is dynamic, regularly updated with new information and its sections expanded as needed. Resources specifically for OER developers were created for those receiving funding from the OERI but are intended to serve anyone interested in the adoption or development of OER. As resource needs are identified through the OERI's interactions with Liaisons, OER authors, and faculty across the state, the OERI strives to address them. There are currently 128 archived webinars available on the website.

Resources found on the OERI website include:

- Links to OER resources developed by CCC faculty and the OERI
- OER collections by discipline, general education area, and Transfer Model Curriculum
- Information about statewide OER and ZTC initiatives and legislation
- OER development guides

- Student success data and strategies for collecting local data
- Archives of OERI webinars
- Registration for and information about upcoming OERI events
- Support resources for local OER Liaisons and other OER advocates
- Contact information to support faculty with questions or who would like additional professional development

Additionally, the Professional Development College provides access to ASCCC's array of openly-licensed self-paced courses on topics such as OER and accessibility.



## OERI PDC OPENLY LICENSED COURSES

The ASCCC OERI has developed two self-paced courses to prepare faculty who are planning to develop/curate OER: OER Basics and Accessibility Basics.

ASCCC OERI - OER Basics serves as an introduction to Open Educational Resources (OER) providing faculty with new options for selecting textbooks and other resources so they



can make the best decisions for their students. At the end of this self-paced course successful participants will be able to:

- Properly identify the creative commons (CC) license on a resource and describe how this resource can and cannot be used.
- Discuss the advantages and disadvantages of open resources using current research in the field as evidence.
- Research, analyze and review repositories of open resources.
- Effectively search for open resources and post reviews in an OER repository.
- Create an open resource by remixing multiple existing resources and designate a license to this new resource based on the licenses of multiple resources use.

In the initial pilot of the course, a synchronous cohort of 24 faculty members completed OER Basics and 9 of these faculty members completed an additional hands-on component that involved assisting in the development of an OER. This course was also offered as an asynchronous Canvas course and, as of October 2021, seventy-nine faculty members have completed the training.

ASCCC OERI - Accessibility Basics provides an overview of accessibility intended for all faculty – it is not limited to accessibility in the context of OER. The focus of this course is on the creation of accessible online content, regardless

of the platform being employed. The course was designed with two compatible goals:

- Introduce all faculty to the basics of developing accessible content across a variety of platforms and
- Provide faculty who will be developing and/or curating open educational resources (OER) with an understanding of accessibility basics

To date, fifty-nine faculty members have completed the accessibility training course.

The OERI has integrated accessibility training into much of its work as today's faculty member is certain to be interacting with students in a digital environment. As accessibility is a complicated topic, the OERI's goal is to ensure that faculty understand the basics of accessibility and that no faculty member is creating accessibility barriers for students. Of course, many OER projects will require more extensive accessibility and technology training, which OERI provides as necessary.

Both the OER and Accessibility Basics courses are openly licensed and available for local adoption and adaptation, so it is likely that these resources have benefitted more faculty than the course data suggests. The training of faculty will ensure the sustainability of OER programs by building local expertise.



## OERI LOCAL ACADEMIC SENATE VISITS

The OERI also provides support to local colleges by visiting and providing professional development to faculty through their local academic senates. Representatives from the OERI visited the following colleges to assist OER Liaisons and local academic senates in advancing the adoption of OER. These visits are tailored to the local college's needs and address different topics at the request of local faculty.

Date	College or District
April 26, 2019	Peralta College Community College District
August 8, 2019	Palo Verde College
August 15, 2019	Moorpark College
August 20, 2019	Evergreen Valley College
August 20, 2019	Bakersfield College
August 22, 2019	Santa Barbara City College
August 30, 2019	Evergreen Valley
October 31, 2019	Los Angeles Southwest College
January 10, 2020	Reedley College
January 17, 2020	Porterville Community College

Date	College or District
March 2, 2020	Skyline College
March 19, 2020	Ventura County Community College District
March 26, 2020	Mission College
April 14, 2020	Barstow College
June 18, 2020	De Anza College
August 14, 2020	Yuba College
August 19, 2020	Riverside College
September 18, 2020	Foothill College
Date	College or District
October 15, 2020	Mission College
October 26, 2020	Merced College
November 13, 2020	Fullerton College
November 20, 2020	Fullerton College
February 5, 2021	Rio Hondo College
February 10, 2021	Rio Hondo College
February 17, 2021	Rio Hondo College
February 19, 2021	Rio Hondo College
August 20, 2021	Compton College
November 5, 2021	Mendocino College
December 3, 2021	Mt. San Jacinto College

## OERI Objective 6 - Advocate for OER within Other Statewide Initiatives

### OER COORDINATING COUNCIL

Prior to the establishment of the OERI, no forum existed for the exchange of information among organizations involved in advancing the use of OER and related efforts within California. The need for the coordination of efforts and sharing of information and resources was among the many reasons for the establishment of the OER Coordinating Council.

The membership of the Coordinating Council includes representatives from:

- Academic Senate for California Community Colleges Executive Committee
- Academic Senate for California Community Colleges Open Educational Resources Initiative
- Academic Senate of the California State University
- California Community Colleges Chancellor's Office
- California Open Online Library for Education (COOL4Ed, CSU)
- California Virtual Campus Online Education Initiative
- California Community Colleges Council of Chief Librarians
- Student Senate for California Community Colleges
- California Community Colleges ZTC Program Technical Assistance Provider
- Community College Consortium for Open Educational Resources – An international organization housed in California.

- CSU Affordable Learning Solutions
- LibreTexts – OER platform housed at UC Davis
- Multimedia Educational Resource for Learning and Online Teaching (MERLOT, CSU)

The Coordinating Council meets twice yearly and provides a forum for the various organizations to discuss their work and to identify opportunities for collaboration. One outcome of the council was the creation of Cal OER that provided an opportunity for networking, the sharing of resources, and establishing connections among projects.

### STATEWIDE EVENTS

#### Cal OER

To advance the use of OER in local curriculum and teaching, the OERI partnered with CSU Affordable Learning Solutions and LibreTexts for the first CAL OER Conference in summer 2021. Over 400 attendees attended the 3-day conference and over 30 breakouts featuring presenters from across the United States. Breakout titles included “Student Equity Centered Course Design”, “Where are the Holes? Determining OER Needs Across 115 Colleges”, and “Open for Antiracism: Using Open Education to Support Antiracist Teaching”. A full program is available on the Cal OER 2021 website ([www.caloer.org](http://www.caloer.org)). Archives of the event's keynote speakers are available at the event's YouTube channel ([tinyurl.com/CalOER-Key](https://tinyurl.com/CalOER-Key)).

## ASCCC Events

The OERI sponsored the 2020 ASCCC Academic Academy which had over 140 attendees, and The Blueprint for Counseling Success Conference which had over 150

attendees. The OERI has also regularly presented at ASCCC Plenaries, the ASCCC Curriculum Institute, and other statewide conferences.

## OERI Objective 7 - Identify – And Develop – OER Solutions Related to Initiatives and Legislation

Increasing the adoption of OER aligns naturally with many of the system’s initiatives and goals. The provision of no-cost course resources clearly addresses issues of both equity and success by ensuring all students have the resources they need to succeed. In addition, the ability to edit openly licensed resources empowers faculty to ensure that resources are inclusive, diverse, and anti-racist. The [ASCCC OERI IDEA Framework](https://tinyurl.com/OERI-IDEA) (available at [tinyurl.com/OERI-IDEA](https://tinyurl.com/OERI-IDEA)) is intended to facilitate faculty review and improvement of resources, an effort that is well-aligned with system priorities. OER also plays an important role in other initiatives and legislation.

### NO-COST (ZERO TEXTBOOK COST, “ZTC”) MARK

As discussed, the OERI has sought to support the legislative requirement that no-cost (“ZTC”) course sections are marked in online course schedules. The OERI has advocated for compliance with this, and other requirements related to textbook costs. The OERI leadership team has conducted webinars regarding the legislatively required mark, facilitated discussions with OER Liaisons, identified examples of

its effective implementation, and disseminated information to support local advocacy.

### C-ID AND ADTS

The OERI relies upon C-ID descriptors to show how OER aligns with courses and uses the Transfer Model Curricula, which delineate the courses in Associate Degrees for Transfer (ADTs), to demonstrate how available OER can be used to create entire degrees with no textbook costs. The existence of these statewide curricular structures has facilitated the work of the OERI and, in turn, the OERI has increased faculty understanding of both C-ID and ADTs. More recently, OERI’s work is helping many local colleges create ZTC degree pathways as part of the Guided Pathways initiative.

### ZERO TEXTBOOK COST (ZTC) PROGRAM

The OERI’s work to identify available OER should facilitate future ZTC work. The OERI’s comprehensive discipline collections, OER by Transfer Model Curriculum, and OER by CSU General Education can be used to determine where

resources need to be invested to expand the availability of ZTC degrees.

It should be noted that the OERI's approach, focusing on statewide needs, collaboration, and sustainability aligns with the LAO's recommendations regarding the prior round of ZTC funding. These same elements were included in the legislation establishing the most recent round of funding.

## VISION FOR SUCCESS

The work of the OERI supports the following Vision for Success goals:

1. Increase completion rates for California Community College students. Numerous research studies (in the California Community College system and beyond) show that the use of OER increases success and persistence rates. Research has also shown that students in OER classes take more units per semester, which has been shown to improve completion rates and decrease time to completion.
2. Increase transfer rates. The use of OER has been shown to increase student grades; this increased achievement of course outcomes will help students successfully transfer and complete a course of study at a university.
3. Decrease average number of units accumulated. The use of OER has been shown to decrease the rate of drops, withdrawals, and failing grades.
4. Reduce equity gaps. Research has shown that the use of OER improves outcomes for minoritized students and reduces equity gaps. Additionally, the OERI is supporting the development of inclusive resources and has developed a framework to help faculty ensure that all course resources are supportive of minoritized student populations.

## BASIC SKILLS AND NONCREDIT

The OERI participated in the ASCCC Noncredit Institute to provide training to support basic skills and noncredit faculty in adopting OER. The OERI conducted a webinar specifically for English as a second language (ESL) faculty and supported the development of an ESL OER.

## OERI Objective 8 - Facilitate OER Adaptation and Development with Technology Resources

### EVALUATE OER DEVELOPMENT PLATFORMS

An initial stated goal of the OERI was to “identify, procure, and implement an authoring tool for the CCCs.” Various tools exist for authoring and adapting OER. After a review of the available options, the OERI initiated a pilot of the three platforms that were deemed best suited to meet the needs of the OERI, faculty, and students:

- LibreTexts
- OER Commons
- Pressbooks

During the OERI’s first Request for Proposals, training was arranged for grantees on the use of the 3 platforms. Follow-up surveys regarding the experiences of these grantees indicated that most were pleased with the platform they had selected. However, as it is the OERI’s intent to ultimately support a single platform, the OERI is encouraging faculty to use LibreTexts, since it has the most comprehensive support, features, and integration into Canvas, the course management system all California Community Colleges use. LibreTexts is unique in both serving as a platform for developing or “remixing” OER and as a host of dynamic content that facilitates OER customization by faculty. “Remixing” refers to combining different OER and/or reordering an existing OER (e.g., sequencing the chapters in a preferred order). Faculty who wish to remix OER that is not readily available in an editable format can request that it be “harvested” by LibreTexts. As LibreTexts continues to evolve, the OERI has opted to support its use and has provided

guidance to improve its functionality. Most recently, an openly licensed system for developing interactive content (H5P) ceased to provide full access to its many options in its free platform. LibreTexts is now offering this functionality and will soon enable full integration of this tool into course management systems, including Canvas. Other platforms (e.g., Pressbooks) provide such services for a fee and were less supportive of collaboration. LibreTexts is housed at University of California Davis which has allowed for a meaningful and productive cross-system collaboration. LibreTexts has been responsive to the unique needs of the OERI and the California Community College faculty. For example, it developed a strategy for providing print resources for students and provided direct and ongoing support for faculty developing OER.

For these reasons, the OERI has determined that investing in an OER platform is not currently warranted.

### HOMEWORK AND ANCILLARIES

The OERI has identified two homework systems that are particularly useful for California Community College faculty. MyOpenMath is used by faculty in math, chemistry, physics, and astronomy. H5P is being used by faculty in world languages (e.g., French and Spanish), Career Technical Education (CTE), and other disciplines. The OERI is training faculty in the use and accessible development of activities in both platforms. The OERI is also supporting faculty in the

development of activities using Canvas, the course management system used by all the colleges to deliver online education.

## TRAINING AND RESOURCES TO FACILITATE OER DEVELOPMENT AND ADAPTATION

The OERI offers a variety of training and resources to support faculty developing and adapting OER (Appendix A) including opportunities to develop technology skills needed for OER platforms and to assist in advancing the OER efforts at individual colleges. Some technology-focused trainings included:

- Open Educational Resources for Ready-To-Use Math and Homework Systems,

- Using MyOpenMath to Support the Implementation of AB 705 and Transfer-level Courses,
- LibreTexts “Freeing” the Textbook,
- Curating and Publishing OER Materials,
- Teaching Physics Online Using MyOpenMath and other OER,
- I Found an OER Textbook—What Now? Editing, Curating, Re-Mixing, Printing, and Moving OER to Canvas Using LibreTexts, and
- How to integrate OER Physics Homework Sets in Canvas.

The OERI’s Leadership Team also provides individualized support, office hours, and campus-specific trainings for local OER liaisons and faculty developing and adapting OER.

# Appendices

## APPENDIX A – OPENSTAX ADOPTIONS IN THE CALIFORNIA COMMUNITY COLLEGES (2020-2021)

Determining the impact of the adoption of open educational resources (OER) is complicated by many factors. Most notably, course schedules often provide unclear and incomplete data. And, at many colleges, course resource information ceases to be available to the public after a term’s end. More practically, course sections that are marked as “no-cost” may achieve that status by using OER, purchasing resources for student use, using copyrighted materials available from the library, or simply not using a text.

Thus, the 1<sup>st</sup> step in assessing the impact of OER, determining which sections are using OER is not a simple task. If this information was readily available, calculating dollars

saved and determining impact on student success would be relatively simple.

To get a very rough – and intentionally low – estimate of dollars saved through the use of OER, data from OpenStax for the state of California were obtained and reviewed. OpenStax is an OER publisher that has a limited, but popular, list of titles. Titles adopted by fewer than 5 community colleges were excluded.

Across 35 titles, OpenStax reports 1368 adoptions by faculty at California Community Colleges. If it is assumed that each adoption represents use by one faculty for one section for one term, we can estimate the dollars saved by students by estimating the cost of the text and the size of each section.

OpenStax Resource	CCC Adoptions
Accounting - Financial	16
Accounting - Managerial	11
Algebra (College)	42
Algebra (Elementary)	24
Algebra (Intermediate)	40
Algebra (Prealgebra)	24
Algebra and Trigonometry	39
American Government	70
Anatomy and Physiology	61
Astronomy	66
Biology	70
Biology, Concepts of (non-majors)	67

OpenStax Resource	CCC Adoptions
Business Law I Essentials	7
Business (Intro to)	37
Business Ethics	11
Business Statistics	10
Calculus	42
Calculus (Precalculus)	53
Chemistry	49
Chemistry – Atoms First	23
College Success	24
Economics	19
Economics (AP, micro)	24
Economics (Macro)	41
Economics (Micro)	40

OpenStax Resource	CCC Adoptions
Entrepreneurship	6
History (US)	71
Management	8
Microbiology	42
Organizational Behavior	5
Physics (College; algebra-based)	62
Physics (University; calculus-based)	43
Psychology	87
Sociology (Intro)	80
Statistics (Intro)	70



Textbook costs vary widely by discipline and course. Estimates for a generalized average cost across all disciplines range from \$50 - \$100. If we use the lowest estimate of \$50 and presume each section consists of 30 students, the savings would be \$2,052,000. In other words, students saved over two million dollars if these data represent just

one adoption by one faculty member for a single term. This calculation is intended to highlight the sizable impact that OER is already having in our colleges – even when considering only one OER publisher and intentionally providing a low estimate.

## APPENDIX B – OERI WEBINARS AND PRESENTATIONS

Year	Webinars Offered	Average Attendance	Total Year's Attendance	Total Unique Attendance
2018-19	14	36	498	482
2019-20	37	27	954	507
2020-21	50	37	1850	1264
Fall 2021	34	26	870	638
Total	135	32	4172	2104

Date	Webinars
10/5/2018	Open Educational Resources Basics I
10/12/2018	Open Educational Resources for Psychology
10/19/2018	Open Educational Resources Basics II
10/26/2018	Open Educational Resources for Ready-To-Use Math and Homework Systems
11/2/2018	OER and English
11/9/2018	OER and Child Development/Early Childhood Education
11/16/2018	OER and Counseling
11/30/2018	OER and Biology
12/7/2018	OER and Communication Studies
2/1/2019	The ASCCC OERI - An Overview
2/8/2019	OER for Political Science
2/22/2019	OER Basics I
3/1/2019	OER Basics II

Date	Webinars
3/7/2019	Determining Whether or Not an Online Resource is Accessible
3/8/2019	Using MyOpenMath to Support the Implementation of AB 705 and Transfer-level Courses
3/15/2019	OER for Anthropology
3/22/2019	LibreTexts "Freeing" the Textbook
3/29/2019	OER and Economics
4/5/2019	OER and Foreign Languages
4/8/2019	A Critical Collaboration – Working with your Bookstore to Make OER Available.
4/12/2019	OER and Computer Science
4/18/2019	OER and Chemistry
4/25/2019	A Critical Collaboration – Working with your Bookstore to Make OER Available.
4/26/2019	OER and Geography

Date	Webinars
5/3/2019	OER for Librarians – A Crash Course
5/10/2019	Curating and Publishing OER Materials
9/5/2019	ZTC Vs OER Vs No-Cost
9/12/2019	OER/ZTC, Equity, and Beyond
9/19/2019	Introduction to OER Advocacy – How to Stop Talking to Yourself
9/26/2019	Open Forum
10/3/2019	Finding OER - and Can You Create a Hybrid?
10/10/2019	Finding Body Parts - OER for Anatomy
10/24/2019	Creative Commons, Copyright, and Fair Use - Why do we need OER?
10/31/2019	Open Forum
11/14/2019	OER for Sociology
11/21/2019	Open Forum
12/5/2019	The OERI 2020 RFP
12/12/2019	OERI Funded Projects Showcase
2/6/2020	ASCCC OERI Spring 2020 - An Update
2/13/2020	CCC “Marking” of No-Cost Course Sections - An SB 1359 Update
2/20/2020	Where did that come from? Ownership and Attributions in OER
3/2/2020	ASCCC OERI Resource Showcase
3/3/2020	California Community Colleges - Local OER Efforts
3/4/2020	From Locally Developed ZTC Pathways to Statewide OER Degrees
3/5/2020	California Dreaming - Coordinating Statewide Efforts in the Golden State
3/6/2020	What’s Next to Move the Needle?
3/19/2020	Student Success Research - OER in Biology
3/23/2020	OER Licensing and Attributions
3/24/2020	Creating Accessible OER
3/25/2020	Creating Accessible OER
3/26/2020	OER Licensing and Attributions
3/26/2020	Open Forum
3/27/2020	Creating Accessible OER

Date	Webinars
4/2/2020	“Inclusive Access” or “Automatic Billing” – What is it? Where is it? Why is it?
4/3/2020	Canvas Commons and Open Educational Resources (OER) Basics
4/9/2020	Copyright and Fair Use Mythbusters
4/16/2020	Teaching Math Online Using OER
4/16/2020	Teaching Physics Online Using MyOpenMath and other OER
4/23/2020	Teaching Art and Art History Online Using OER
4/30/2020	Open Forum
5/7/2020	Unintended Consequences and Opportunities: You, OER, and the Future Or How I Overcame My Commercial Text Addiction
5/14/2020	How to Spark and Sustain an OER Movement
5/21/2020	UDL 101
9/11/2020	How to Find OER
9/18/2020	New OER
9/25/2020	Open Forum
10/2/2020	OER - A Simple Solution in Complex Times
10/16/2020	Copyright, Fair Use, and Piracy. Where does OER Fit In?
10/23/2020	Navigating Acronyms and Icons - Approaches to Marking No-Cost Sections
10/30/2020	Open Forum
11/6/2020	Creating a Print Copy of Your OER Book for Others to Purchase
11/13/2020	OER: Making the Equity Case
11/20/2020	Open Forum
12/4/2020	OER and Anthropology
12/11/2020	When Open Meets Online
2/5/2021	ASCCC OERI Update
2/17/2021	I Found an OER Textbook–What Now? Editing, Curating, Re-Mixing, Printing, and Moving OER to Canvas Using LibreTexts
2/19/2021	OER and Philosophy
2/19/2021	I Found an OER Textbook–What Now? Editing, Curating, Re-Mixing, Printing, and Moving OER to Canvas Using LibreTexts
2/26/2021	Open Forum

Date	Webinars
3/5/2021	New OER Resource Showcase
3/12/2021	Clearing Up Confusion: OER, ZTC, and Fair Use
3/19/2021	OER and Computer Science
3/26/2021	Open Forum
4/2/2021	OER and Ethnic Studies/Social Justice Studies
4/2/2021	OER and Sociology
4/2/2021	OER and Physics
4/9/2021	OER and Hospitality Management
4/9/2021	OER and Business
4/9/2021	RFP III Office Hour
4/9/2021	OER and Math
4/15/2021	OERI Resolutions Office Hours
4/16/2021	OER and Political Science
4/22/2021	OER and Administration of Justice
4/23/2021	OER and English
4/23/2021	OER and Chemistry
4/23/2021	OER and Biotechnology
4/23/2021	OER and Communications Studies
4/30/2021	OER and History
4/30/2021	OER and English as a Second Language
4/30/2021	OER and Spanish
4/30/2021	OER and Economics
5/7/2021	OER and CD/ECE Discipline Webinar
5/7/2021	LibGuides, Discovery Tools, and Websites: How to Make OER Discoverable
5/7/2021	Spanish, LibreTexts, and Adapt – Using OER to Customize Your Spanish Text and Integrate a Homework System
5/14/2021	The Blueprint for Counseling Success Conference
5/14/2021	OER and Biology
5/14/2021	OER for English and Literature
5/18/2021	OERL Webinar - Faculty Incentives and OER Grants

Date	Webinars
5/21/2021	CDEV/ECE Hands-On Webinar
5/21/2021	OER and Geography/Physical Sciences
5/27/2021	LibreFest
5/28/2021	Open Forum
9/10/2021	OER and ZTC in the California Community Colleges - An Update
9/17/2021	Licensing and OER - How and Why
9/24/2021	OER and the Hesitant - Testing the Waters
10/1/2021	Implementing SB 1359 (Zero Textbook Cost Icons)
10/8/2021	OER for Administrators
10/15/2021	OER Basics for the Less Familiar
10/15/2021	Remixing Spanish OER
10/22/2021	Saddleback College: Building ZTC
10/29/2021	Equity from the Start, Utilizing HEERF
11/1/2021	Communication Studies - What's Missing?
11/2/2021	OER for ESL
11/3/2021	Art History OER
11/5/2021	State Center District OER Award Program
11/8/2021	Survey of Available Introduction to Logic (C-ID PHIL110)
11/8/2021	OER and Psychology
11/10/2021	A Conversation on OER for Introduction to International Relations (C-ID POLS 140)
11/16/2021	Current Status of Administration of Justice OER and Future Directions
11/17/2021	Creating OER for Oral Interpretation of Literature
11/19/2021	A Faculty Conversation on Sharing OER resources in Anthropology and Sociology
11/19/2021	English Discipline OER Needs Assessment
11/19/2021	Successes and Challenges in Developing or Adopting Business OER
11/30/2021	Building a Community of Like-Minded Historians

Date	Webinars
12/1/2021	RFP IV - An Overview
12/2/2021	Communication Studies Community
12/2/2021	Using Virtual Environments to Teach Computer Science
12/3/2021	Inclusion, Diversity, Equity, and Anti-Racism (IDEA) - A Process for Reviewing and Improving Courses and Course Resources
12/3/2021	OER and Math - Sharing and Learning Session
12/3/2021	OER and Ethnic Studies

Date	Webinars
12/6/2021	RFP IV - Making the Case
12/7/2021	Creating ZTC Transfer Degrees in Chemistry
12/8/2021	RFP IV - Meaningful Collaboration
12/9/2021	RFP IV Office Hours
12/10/2021	How to integrate OER Physics Homework Sets in Canvas
12/13/2021	RFP IV Office Hours

## APPENDIX C – OERI-SPONSORED ASCCC RESOLUTIONS

Term	Resolution Number	Resolution Title
Fall 2021	Resolution 3.04	Develop Statewide Recommendation for Definition of Low-Cost Course Materials
Fall 2021	Resolution 3.05	Zero Means Zero Textbook Cost
Fall 2021	Resolution 7.01	System-Level Zero-Textbook-Cost Resources
Fall 2021	Resolution 17.01	Local Senate Policies Regarding Textbook Adoption
Spring 2021	Resolution 9.05	Developing an Anti-Racism, Diversity, Equity, and Inclusion Curriculum Audit Process
Spring 2021	Resolution 11.02	Advocate for Development of a ZTC Data Element
Spring 2021	Resolution 11.03	Advocate for On-Going Funding for the ASCCC Open Educational Resources Initiative
Spring 2021	Resolution 11.04	Ensure Compliance with Required Instructional Materials Regulations
Spring 2021	Resolution 13.01	Institutionalizing Open Educational Resources
Fall 2020	Resolution 09.01	Recommendations for the Implementation of a Zero Textbook Cost* (ZTC) Designation in Course Schedules
Fall 2020	Resolution 20.02	Ensure Course Cost Transparency for Students
Fall 2019	Resolution 09.06	Consider Implications of Publisher-Developed Lower Cost “Inclusive Access” Strategies
Fall 2019	Resolution 09.05	Provide Guidance with Respect to Ensuring Student Access to No-Cost Resources
Spring 2019	Resolution 13.02	Support for Faculty Open Educational Resources Coordinators
Spring 2019	Resolution 13.01	Develop Recommendations for the Implementation of a No-Cost Designation in Course Schedules
Spring 2019	Resolution 09.05	Support the Development of Open Educational Resources (OER)
Spring 2019	Resolution 09.03	Documenting Open Educational Resources Options in Course Outline of Record
Fall 2018	Resolution 17.02	Establish Local Open Educational Resources Liaisons

## APPENDIX D – OERI DISCIPLINE LEAD EVENTS

Date	Discipline	Title	Attendees
12/10/21	Physics	How to integrate OER Physics homework sets in Canvas	14
12/7/21	Chemistry	Creating ZTC Transfer Degrees in Chemistry	9
12/3/21	Math	OER and Math - Sharing and Learning Session	44
12/3/21	Ethnic Studies	OER and Ethnic Studies	38
12/2/21	Communication Studies	Communication Studies Community	16
12/2/21	Computer Science	Using Virtual Environments to Teach Computer Science	9
11/30/21	History	Building a Community of Like-Minded Historians	12
11/19/21	Anthropology and Sociology	A Faculty Conversation on Sharing OER resources in Anthropology and Sociology	23
11/19/21	English	English Discipline OER Needs Assessment	25
11/19/21	Business	Successes and Challenges in Developing or Adopting Business OER	14
11/17/21	Communication Studies	Creating OER for Oral Interpretation of Literature	10
11/16/21	Administration of Justice	Current Status of Administration of Justice OER and Future Directions	14
11/10/21	Political Science	A Conversation on OER for Introduction to International Relations (C-ID POLS 140)	14
11/8/21	Philosophy	Survey of Available Introduction to Logic (C-ID PHIL110)	7
11/8/21	Psychology	OER and Psychology	17
11/3/21	Art History	Art History OER	27
11/2/21	ESL	OER for ESL	36
11/1/21	Communication Studies	Communication Studies - What's Missing?	27
10/15/21	Spanish	Remixing Spanish OER	28
5/21/2021	Geography and Physical Sciences	OER and Geography/Physical Sciences	11
5/14/2021	Biology	OER and Biology	34
5/14/2021	English	OER for English and Literature	15
5/7/2021	Child Development and Early Childhood Education	OER and CD/ECE Discipline Webinar	59
5/7/2021	Spanish	Spanish, LibreTexts, and Adapt – Using OER to Customize Your Spanish Text and Integrate a Homework System	93
4/30/2021	History	OER and History	35
4/30/2021	ESL	OER and English as a Second Language	183
4/30/2021	Spanish	OER and Spanish	63
4/30/2021	Economics	OER and Economics	19
4/23/2021	English	OER and English	69

Date	Discipline	Title	Attendees
4/23/2021	Chemistry	OER and Chemistry	26
4/23/2021	Biotechnology	OER and Biotechnology	12
4/23/2021	Communication Studies	OER and Communications Studies	44
4/22/2021	Administration of Justice	OER and Administration of Justice	29
4/16/2021	Political Science	OER and Political Science	32
4/9/2021	Hospitality Management	OER and Hospitality Management	14
4/9/2021	Business	OER and Business	26
4/9/2021	Math	OER and Math	27
4/2/2021	Ethnic Studies and Social Justice Studies	OER and Ethnic Studies/Social Justice Studies	50
4/2/2021	Sociology	OER and Sociology	18
4/2/2021	Physics	OER and Physics	15

## APPENDIX E – DISCIPLINE STATUS

The following table summarizes the status of disciplines that have been – or will be – surveyed regarding their use of OER. “Survey Status” indicates when a survey was done, or when it is anticipated.

### Key

S Spring                      F Fall  
 N No                          Y Yes  
 NA Not applicable          IP In progress  
 HW Indicates discipline is reliant upon the use of a homework system

Discipline	Survey Status	C-ID Prefix (number of descriptors)	TMC	OER by TMC	Notes
Accounting	S 19	ACCT (2)	N	NA	HW
Administration of Justice	S 11	AJ (9)	Y	Y	
*American Sign Language	S 22	None	N	NA	Estimated that 40 colleges have non-CTE programs and 21 of these also have a CTE program.
Anthropology	F 19	ANTH (5)	Y	Y	
Art History	S 19	ARTH (7)	Y	Y	
Biology	S 19	BIOL (9)	Y	Y	
Biotechnology	S 22	BIOT (6)	N	NA	Estimated that 31 colleges have BIOT programs.
Business Administration	S 19	BUS (5)	Y	Y	
Chemistry	S 22	CHEM (10)	Y	Y	
Child and Adolescent Development	F 18	CDEV (2)	Y	Y	
Communication Studies	F 18	COMM (10)	Y	Y	
Computer Science	F 18	COMP (5)	Y	Y	
Cybersecurity	F 18				
Early Childhood Education	F 18	ECE (6)	Y	Y	
Economics	S 19	ECON (2)	Y	Y	HW
Elementary Teacher Education	S22	EDUC (1)	Y	Y	OER by TMC is a draft.
Emergency Medical Services/ Paramedic	S 22	EMS (6)	N		Estimated that 17 colleges have EMS programs and 27 have paramedic.
Ethnic Studies	F 21	IP	N		Discipline Lead in place since S 20



Discipline	Survey Status	C-ID Prefix (number of descriptors)	TMC	OER by TMC	Notes
English	F 18	ENGL (15)	Y	Y	
English as a Second Language					Informally surveyed F 20. Discipline Lead in place.
Geography	S 19	GEOG (10)	Y	Y	
Geology	S 22	GEOL (14)	Y	IP	
History	S 19	HIST (6)	Y	Y	
Hospitality Management	S 22	HOSP (7)	Y	Y	OER by TMC is a draft.
Information Technology and Information Systems	F 18	ITIS (11)	N		
Kinesiology	S 22	KIN (2)	Y	IP	
Mathematics	F 18	MATH (20)	Y	Y	HW
Music	F 19	MUS (18)	Y		
Nursing	S 19		N	NA	
Office Technology/Business information Worker	S 19	BSOT (22)	N	NA	
Philosophy	F 19	PHIL (6)	Y	Y	
Physics	S 22	PHYS (8)	Y	Y	
Political Science	S 19	POLS (6)	Y	Y	
Psychology	F 18	PSY (9)	Y	Y	
Public Health Science	S 22	PHS (4)	Y	IP	
Social Justice Studies	F 21	SJS (3)	Y	Y	OER by TMC is a draft.
Sociology	F 18	SOCI (8)	Y	Y	
Spanish	S 22	SPAN (6)	Y	Y	
Studio Arts	19 S	ARTS (15)	Y	Y	

- Data Summary
- Disciplines Surveyed: 27
- Disciplines to be Surveyed: 11
- Comprehensive Discipline OER Collections: 27
- OER by TMC: 25
- Comprehensive Discipline OER Collections and Discipline by TMC In Progress: 3

## APPENDIX F – FEDERAL REQUIREMENT –TEXTBOOK INFORMATION AT REGISTRATION

In 2007, Congress took up the reauthorization of the Higher Education Act of 1965, the law governing the nation's college and university policies, which was ultimately achieved with the passage of the (HEOA) in 2008. Senator Dick Durbin of Illinois championed the issue of textbook affordability during the process, drafting a set of provisions that were ultimately codified into law under Section 133 (20 USC 1015b). Among the provisions was a requirement that colleges and universities eligible for funding must, to the maximum extent practicable, disclose the ISBN and retail price of college textbooks in the online course schedule students use for registration. The textbook information provisions took effect on July 1, 2010, and were evaluated by the Government Accountability Office (GAO) in 2013. The relevant portion of Section 133 reads:

To the maximum extent practicable, each institution of higher education receiving Federal financial assistance shall–

1. disclose, on the institution's Internet course schedule and in a manner of the institution's choosing, the International Standard Book Number and retail price information of required and recommended college textbooks and supplemental materials for each course listed in the institution's course schedule used for preregistration and registration purposes, except that–
  - a. if the International Standard Book Number is not available for such college textbook or supplemental material, then the institution shall include in the Internet course schedule the author, title, publisher, and copyright date for such college textbook or supplemental material; and
  - b. if the institution determines that the disclosure of the information described in this subsection is not practicable for a college textbook or supplemental material, then the institution shall so indicate by placing the designation "To Be Determined" in lieu of the information required under this subsection; and
2. if applicable, include on the institution's written course schedule a notice that textbook information is available on the institution's Internet course schedule, and the Internet address for such schedule.

This provision instigated a shift in the responsibility of institutions for providing textbook information to students. Historically, textbook information was typically not available at the time students registered for courses (often several months in advance). Visiting the college bookstore prior to the start of the term was often the most reliable way to get information about book adoptions. Following the passage of HEOA, institutions had just under two years to update their systems to ensure that students had access to textbook information at the time of registration.

Source: Chapter 1, State and Federal Legislation, in *Marking Open and Affordable Courses: Best Practices and Case Studies*.

**APPENDIX G - SCHEDULE ANALYSIS BY COURSE –  
2021 FALL OR 2022 SPRING**

In its on-going effort to determine the level of OER use at California’s Community Colleges, an analysis of the schedules of the system’s 115 accredited degree-granting colleges was conducted to determine how often specific courses were made available as no-cost (“Zero Textbook Costs” or ZTC) sections. When available, data from 2021 Fall was used. If 2021 Fall data were not available, 2022 Winter or Spring data were employed. The analysis that follows consists of data collected by the OERI and information obtained from the OER Liaisons.

The courses considered in the analysis were those aligned to the specified Course Identification Numbering System (C-ID; [www.c-id.net](http://www.c-id.net)) designation. In the event that two courses at the college were necessary for the college’s offering to be aligned, one of the two courses was used in the analysis.

It should be noted that these data provide an overview of sections marked with a no-cost or Zero Textbook Cost (ZTC) designation. The identified sections may or may not be OER.

Nine colleges were excluded from the analysis. Of the remaining 106, the number of colleges excluded from inclusion (if any) in each course-level analysis has been specified. To demonstrate the level of adoption, summary data are provided that emphasize the percentage of sections marked ZTC. The number in parentheses following the course title indicates the number of colleges included in the analysis.

**Colleges Excluded from the Analysis (9)**

College	Reason for Exclusion
Crafton Hills	Although generally not marked, all sections are free to all students due to district purchase (21-22 only).
Feather River	Unable to assess.
Moreno Valley	Unable to assess.
Norco	Unable to assess.
Palo Verde	Unable to assess.
Riverside City	Unable to assess.
San Joaquin Delta	Unable to assess.
San Bernardino Valley	Although generally not marked, all sections are free to all students due to district purchase (21-22 only).
Victor Valley	Unable to assess.

### Accounting 110 – Financial Accounting (106)

Consistent with our discussions with accounting faculty that revealed that this is a discipline that is highly dependent upon homework systems and updates provided by commercial publishers, just 14 of our colleges reported having any sections of Financial Accounting that were ZTC.

College	Sections ACCT 110 Offered	Percent ACCT 110 ZTC
Solano	4	100%
Reedley	2	100%
Madera	1	100%
Lake Tahoe	1	100%
Bakersfield	8	50%
Sacramento City	8	50%
Cerro Coso	4	50%
College of Alameda	4	50%
West Valley	9	44%
Folsom Lake	5	40%
Mission	6	33%
Hartnell	3	33%
Fullerton	10	10%
Pasadena	11	9%

### Art History 100 - Understanding Art (58)

Forty-eight of the colleges included in the analysis either had no courses aligned to the C-ID ARTH 100 designation, or offered no sections of such a course during the term included in the analysis. Even given this large number of excluded colleges, 19 colleges had at least one ZTC section. At nine of the 58 colleges (15%) included in the analysis, 50% or more of the sections were ZTC.

College	Sections ARTH 100 Offered	Percent ARTH 100 ZTC
Oxnard	8	100%
West Valley	2	100%
College of the Desert	1	100%
Santa Ana	13	92%
Mt. San Jacinto	18	67%
West LA	3	67%
Ventura	12	58%
Modesto	16	50%
West Hills - Coalinga	4	50%

## Art History 110 - Survey of Western Art from Prehistory through the Middle Ages (83)

Twenty-three of the colleges included in the analysis either had no courses aligned to the C-ID ARTH 110 designation, or offered no sections of such a course during the term included in the analysis. Even given this large number of excluded colleges, 22 colleges had at least one ZTC section. For almost two-thirds of these, 75% or more of the sections offered were ZTC.

College	Sections ARTH 110 Offered	Percent ARTH 110 ZTC
Chabot	2	100%
Barstow	2	100%
Butte	2	100%
Cosumnes River	1	100%
Cypress	1	100%
Madera	1	100%
Reedley	1	100%
Ventura	1	100%
West Hills - Lemoore	1	100%
Mission	1	100%
Modesto	1	100%
College of the Desert	1	100%
Skyline	4	75%
Mt. San Jacinto	4	75%
Pasadena	6	50%
LA Pierce	4	50%
Santa Ana	2	50%
Clovis	2	50%
City College of SF	2	50%
Santa Monica	13	46%
Glendale	5	40%
Long Beach	11	27%

## Business 110 – Introduction to Business (105)

Only one of the colleges included in the analysis was excluded as it did not have a course that had received the C-ID BUS 110 designation. Of the remaining 105, 36 colleges (approximately 35%) had at least one ZTC section. At ten of these, over 80% of the sections of BUS 110 were identified as ZTC. The following colleges had a least one ZTC section of BUS 110, but an overall percentage of ZTC sections that was 33% or less: Contra Costa, Chabot, College of San Mateo, De Anza, Diablo Valley, East LA, LA City, LA Valley, MiraCosta, Pasadena, Reedley, San Diego Mesa, Santa Rosa, Shasta, Sierra, Skyline.

This course is an option in the core of the Business Administration Transfer Model Curriculum.

College	Sections BUS 110 Offered	Percent BUS 110 ZTC
Santa Ana	8	100%
Madera	3	100%
Ventura	8	100%
Woodland	3	100%
Barstow	1	100%
Lake Tahoe	2	100%
Lassen	1	100%
Napa Valley	5	100%
Coastline	10	90%
Hartnell	6	83%
Long Beach	13	69%
West LA	8	63%
Butte	8	63%
Moorpark	16	56%
Porterville	2	50%
Folsom Lake	6	50%
Palomar	4	50%
Sacramento City	11	45%
Cerro Coso	5	40%
College of Marin	5	40%

## Chemistry 110 - General Chemistry for Science Majors I, with Lab (97)

If the lecture and lab were separate courses at a given college, the lecture component of the course was used in the analysis. Nine of the colleges included in the analysis either had no courses aligned to the C-ID CHEM 110 designation, or offered no sections of such a course during the term included in the analysis. Thirteen of the 97 colleges (13%) included in the analysis had a course aligned with CHEM 110 that was marked ZTC.

College	Sections CHEM 110 Offered	Percent CHEM 110 ZTC
Modesto	8	100%
Los Medanos	6	100%
City College of SF	5	100%
Shasta	3	100%
San Diego City	2	100%
West Hills - Lemoore	2	100%
Madera	1	100%
Lassen	1	100%
Palomar	5	80%
Monterey Peninsula	4	50%
Mt. San Jacinto	7	43%
San Diego Mesa	6	33%
LA Mission	4	25%



## Communication Studies 110 – Public Speaking (106)

Data for this course were originally gathered over the summer of 2021. As an increase in available ZTC data has been noted between 2021 Fall and 2022 Spring terms, all colleges that indicated no ZTC sections of a course aligned to C-ID COMM 110 in the analysis based on 2021 Fall were examined again using 2022 Spring data. If that analysis resulted in ZTC sections being noted, the data summarized below were updated with the more current data.

Ten colleges indicate that 100% of their sections of C-ID COMM 110 are ZTC. Another eight are in the 80 – 97% range. Eight-two of the colleges (82/106; over 77%) had at least one section of the course marked as ZTC.

COMM 110 is a required course in the Communication Studies Transfer Model Curriculum. It also fulfills one of the “Golden Four” requirements that must be completed prior to transfer to the California State University.

College	Sections COMM 110 Offered	Percent COMM 110 ZTC
Irvine	48	100%
Moorpark	47	100%
Butte	28	100%
West LA	22	100%
Ventura	20	100%
Mission	17	100%
WH-LeMoore	9	100%
WH-Coalinga	3	100%
Lassen	2	100%
College of the Siskiyous	1	100%
Glendale	32	97%
Shasta	19	95%
LA Trade Technical	16	94%
Coastline	8	88%
Skyline	14	86%
Oxnard	13	85%
Cabrillo	6	83%
Allan Hancock	10	80%

## Communication Studies 130 - Interpersonal Communication (89)

Seventeen of the colleges included in the analysis either had no courses aligned to the C-ID COMM 130 designation, or offered no sections of such a course during the term included in the analysis. Of the remaining 89, at ten of the colleges 100% of the sections were ZTC and eight were in the 56 – 81% range. At American River, Cuesta, Glendale, Madera, Mission, and Palomar, one of the college's two sections (50%) was marked as ZTC. At Santa Ana, 7/16 sections (44%) were ZTC and 10/23 (43%) at Golden West. Less than 35% of sections of COMM 130 were ZTC at the following: College of San Mateo, Foothill, Grossmont, Long Beach, Rio Hondo. Approximately thirty-four percent (31/89) of colleges had at least one ZTC section of COMM 130.

College	Sections COMM 130 Offered	Percent COMM 130 ZTC
Coastline	8	100%
Ventura	6	100%
Ohlone	6	100%
Mt. San Antonio	4	100%
Cabrillo	3	100%
LA Valley	2	100%
Irvine Valley	2	100%
Modesto	2	100%
LA Southwest	1	100%
Reedley	1	100%
Saddleback	16	81%
Evergreen Valley	5	80%
West LA	4	75%
Berkeley City	4	75%
MiraCosta	10	60%
Fullerton	5	60%
LA City	7	57%
College of the Desert	9	56%

## Economics 201 - Principles of Microeconomics (102)

Four of the colleges included in the analysis either had no courses aligned to the C-ID ECON designation, or offered no sections of such a course during the term included in the analysis. Twenty-six colleges (approximately 25%) had at least one section of a course comparable to C-ID ECON 201 identified as ZTC.

This course is a required course in the Business Administration Transfer Model Curriculum.

College	Sections ECON 201 Offered	Percent ECON 201 ZTC
Saddleback	10	100%
Coastline	6	100%
Foothill	4	100%
Shasta	4	100%
Ventura	3	100%
Taft	3	100%
Woodland	2	100%
Compton	1	100%
Copper Mountain	1	100%
Lake Tahoe	1	100%
Mendocino	1	100%
Butte	6	83%
Rio Hondo	5	80%
West LA	8	75%
College of Marin	3	67%
Cabrillo	3	33%
LA Pierce	10	30%
Cosumnes River	7	29%
Irvine Valley	12	25%
Modesto	4	25%
Allan Hancock	4	25%
Moorpark	9	22%
Palomar	11	18%
Santa Barbara	6	17%
Santa Monica	20	10%
Pasadena	11	9%

## English 100 – College Composition (106)

Sixty-six of the colleges included in the analysis (over 62%) had at least one section of a course aligned to the C-ID ENGL 100 designation that was marked ZTC. Despite this impressive percentage, only twelve colleges (11%) had 30% or more sections marked ZTC. It should, however, be noted that this is a course where the number of sections at the colleges varies from 7 to over 280. In other words, the number of sections being considered here is quite large at many of the colleges.

College composition courses typically also fulfill one of the “Golden Four” requirements that must be completed prior to transfer to the California State University.

College	Sections ENGL 100 Offered	Percent ENGL 100 ZTC
Ventura	70	100%
Coastline	30	100%
Butte	12	58%
Saddleback	79	46%
Imperial Valley	30	43%
Columbia	10	40%
Grossmont	67	37%
LA Valley College	63	35%
Barstow	12	33%
Sacramento City	38	32%
LA Trade Technical	26	31%
West Hills College - Lemoore	30	30%

## History 130 - United States History to 1877 (102)

These data were obtained primarily from local OER Liaisons as part of a yearly survey conducted each fall. Four courses were excluded from the analysis as three reportedly had no courses aligned to the C-ID HIST 130 designation and one offered no sections of such a course during the term included in the analysis. Fifty-four colleges (53%) had at least one section of this course marked ZTC.

HIST 130 is a required course in the History Transfer Model Curriculum and such a course is also commonly used towards fulfillment of the California State University American Institutions requirement and the University of California American History and Institutions requirement.

College	Sections HIST 130 Offered	Percent HIST 130 ZTC
Coastline	9	100%
Taft	5	100%
West Hills - Lemoore	4	100%
Mendocino	3	100%
West LA	2	100%
Lake Tahoe	1	100%
LA Pierce	1	100%
Skyline	1	100%
LA Valley	15	87%
College of San Mateo	7	86%
Pasadena	27	78%
Evergreen Valley	7	71%
Mission	7	71%
East LA College	27	70%
Madera	10	70%
Saddleback	13	69%
Orange Coast	15	67%
Berkeley City	3	67%
Laney	3	67%
El Camino	22	59%
Long Beach	28	57%

## History 140 - United States History from 1865 (98)

These data were obtained primarily from local OER Liaisons as part of a yearly survey conducted each fall. Eight colleges were excluded from the analysis as three reportedly had no courses aligned to the C-ID HIST 140 designation and five offered no sections of such a course during the term included in the analysis. Forty-seven colleges (approximately 48%) had at least one section of this course marked ZTC and 19 (19%) had 50% or more of their sections marked as ZTC.

HIST 140 is a required course in the History Transfer Model Curriculum and such a course is also commonly used towards fulfillment of the California State University American Institutions requirement and the University of California American History and Institutions requirement.

College	Sections HIST 140 Offered	Percent HIST 140 ZTC
Imperial Valley	8	100%
Taft	5	100%
Madera	4	100%
West Hills - Lemoore	4	100%
College of San Mateo	2	100%
Laney	2	100%
LA Trade Tech	1	100%
West LA	1	100%
Coastline	12	83%
Shasta	6	83%
East LA College	14	71%
Oxnard	3	67%
Long Beach	26	62%
Pasadena	18	61%
Solano	5	60%
Mission	7	57%
Saddleback	17	53%
Allan Hancock	6	50%
Porterville	6	50%

## Math 110 - Introduction to Statistics (105)

These data were obtained primarily from local OER Liaisons as part of a yearly survey conducted each fall. Despite the fact that every college should have at least one course aligned with the C-ID MATH 110 descriptor as such a course is required in numerous Associate Degrees for Transfer, one college does not have a course aligned to the C-ID MATH 110 descriptor. Fifty-nine colleges (56%) had at least one section of this course marked ZTC and 19 (19%) had 50% or more of their sections marked as ZTC.

The count of MATH 110 sections is likely an undercount as courses in various disciplines commonly have courses aligned to the C-ID MATH 110 descriptor. This course is commonly used to fill the CSU Quantitative Reasoning general education requirement and commonly a required or optional course in many Associate Degrees for Transfer. It is, for example, required for both Business Administration and Psychology, historically the two largest transfer majors.

College	MATH 110 Sections	MATH 110 Percent ZTC
West Hills - Lemoore	18	100%
Skyline	17	100%
Columbia	5	100%
Lake Tahoe	4	100%
San Diego Miramar	4	100%
Reedley	1	100%
Oxnard	17	88%
Coastline	17	71%
College of Alameda	8	63%
Santiago Canyon	21	52%
Allan Hancock	23	52%
Santa Ana	30	50%
Fresno City	39	49%
Butte	30	40%
College of the Siskiyous	5	40%



## Mathematics 240 - Ordinary Differential Equations (75)

Thirty-one of the colleges included in the analysis either had no courses aligned to the C-ID MATH 240 designation, or offered no sections of such a course during the term included in the analysis. Only 10 colleges (approximately 13%) had at least one section of a course comparable to C-ID MATH 240 identified as ZTC.

College	Sections MATH 240 Offered	Percent MATH 240 ZTC
Reedley	2	100%
City College of SF	1	100%
College of Alameda	1	100%
Los Medanos	1	100%
Mission	1	100%
West LA	1	100%
Woodland	1	100%
LA City	2	50%
Laney	2	50%
Palomar	2	50%

## Physics 205 - Calculus-Based Physics for Scientists and Engineers: A (95)

Eleven of the colleges included in the analysis either had no courses aligned to the C-ID PHYS 205 designation, or offered no sections of such a course during the term included in the analysis. Only 15 colleges (approximately 16%) had at least one section of a course comparable to PHYS 205 identified as ZTC.

College	Sections PHYS 205 Offered	Percent PHYS 205 ZTC
Coastline	1	100%
Foothill	3	100%
LA City	4	100%
College of Alameda	1	100%
Skyline	5	100%
Ventura	2	100%
Butte	3	100%
MiraCosta	6	100%
Napa Valley	2	100%
Santa Barbara	8	100%
Saddleback	4	75%
Mt. San Jacinto	4	75%
Moorpark	3	33%
Palomar	9	22%
Pasadena	10	20%

## Political Science 110 – Introduction to American Government and Politics (101)

These data were obtained primarily from local OER Liaisons as part of a yearly survey conducted each fall. In the event that no response was received or data were questionable, the OERI gathered the data from fall 2021 if available and spring 2022 if not. Five of the colleges were excluded from the analysis as they offered no C-ID POLS 110 sections during the term selected for analysis. Fifty-five colleges (54%) had at least one course section marked ZTC, with 20 colleges approximately 20%) reporting that 60% or more sections of this course were marked ZTC. It should be noted that this course is commonly used to partially fulfill the CSU's American History and Institutions requirement.

POLS 110 is a required course in the Political Science Transfer Model Curriculum and such a course is also commonly used towards fulfillment of the California State University American Institutions requirement and the University of California American History and Institutions requirement.

College	Sections POLS 110 Offered	Percent POLS 110 ZTC
Madera	12	100%
LA Pierce	11	100%
Laney	8	100%
Taft	8	100%
West Hills - Lemoore	7	100%
West LA	4	100%
Cuyamaca	3	100%
Lake Tahoe	2	100%
Reedley	1	100%
Skyline	1	100%
Golden West	11	91%
Southwestern	7	86%
Butte	18	83%
Saddleback	24	71%
Diablo Valley	14	71%
Mt. San Jacinto	36	69%
LA City	13	69%
Chabot	9	67%
Copper Mountain	3	67%
Orange Coast	15	60%

## Psychology 110 – Introductory Psychology (106)

Data for this course were originally gathered over the summer of 2021. As an increase in available ZTC data has been noted between 2021 Fall and 2022 Spring terms, all colleges that indicated no ZTC sections of a course aligned to C-ID PSYC 110 in the analysis based on 2021 Fall were examined again using 2022 Spring data. If that analysis resulted in ZTC sections being noted, the data summarized below were updated with the more current data. Seventy-one of the colleges (approximately 67%) had at least one course section that was ZTC. At twenty-five of the colleges (over 24%) 50% or more of the sections of a C-ID PSYC 110 course were ZTC.

PSYC 110 is a required course in the Psychology Transfer Model Curriculum.

College	Sections PSYC 110 Offered	Percent PSYC 110 ZTC
Southwestern	35	100%
Santa Ana	18	100%
West Hills - Lemoore	12	100%
Alameda	8	100%
Madera	7	100%
Copper Mountain	6	100%
Lake Tahoe	3	100%
Lassen	3	100%
Golden West	10	90%
Oxnard	7	86%
Yuba	7	86%
Glendale	13	85%
Sacramento	7	71%
Butte	20	70%
Shasta	13	69%
Ventura	12	67%
Monterey Peninsula	8	63%
Berkeley	7	57%
Santa Barbara	21	52%

## Sociology 110 - Introduction to Sociology (106)

Sixty-six of the colleges (over 60%) included in the analysis had at least one section of a course aligned with the C-ID SOCI 110 descriptor marked as ZTC. At twenty-three colleges, 60% or more of the sections were ZTC.

College	Number of Sections SOCI 110 Offered	Percent SOCI 110 ZTC
Copper Mountain	3	100%
Lassen	1	100%
Mendocino	2	100%
Taft	6	100%
West Hills - Lemoore	5	100%
Woodland	4	100%
Saddleback	17	94%
Chabot	13	92%
Glendale	11	91%
Ventura	8	88%
Evergreen Valley	6	83%
Madera	6	83%
Oxnard	6	83%
Mt. San Antonio	22	77%
Santa Ana	13	77%
Irvine Valley	8	75%
Porterville	4	75%
LA City	17	65%
LA Pierce	23	65%
Butte	8	63%
Moorpark	16	63%
Antelope Valley	13	62%
Pasadena	35	60%

## Sociology 115 - Social Problems (99)

Seven of the colleges were excluded from the analysis as they either had no courses aligned to the C-ID SOCI 115 designation, or offered no sections of such a course during the term included in the analysis. Twenty-five (over 25%) had at least one section of a course comparable to SOCI 115 identified as ZTC.

College	Number of Sections SOCI 115 Offered	Percent SOCI 115 ZTC
Chabot	2	100%
LA Trade Technical	1	100%
Madera	3	100%
Modesto	2	100%
Taft	2	100%
Ventura	4	100%
West Hills - Lemoore	6	100%
Woodland	1	100%
East LA	5	80%
Southwestern	5	80%
Long Beach	4	75%
Mt. San Antonio	8	75%
Pasadena	7	71%
LA Southwest	3	67%
Cosumnes River	3	67%
MiraCosta	3	67%
Saddleback	6	67%
Mt. San Jacinto	2	50%
Solano	2	50%
LA City	3	33%
LA Valley	3	33%
Cerritos	3	33%
Diablo Valley	3	33%
Moorpark	3	33%
Santa Rosa	4	25%

## APPENDIX H – OERI-SUPPORTED PROJECTS

Project Working Title	Discipline	C-ID
Ancillaries for “Explorations: An Open Invitation to Biological Anthropology”	ANTH	ANTH 110
Perspectives Cultural Anthropology Textbook Second Edition and Ancillaries	ANTH	ANTH 120
Introduction to Archaeology: A Modular Approach	ANTH	ANTH 150
Beliefs: An Open Invitation to the Anthropology of Magic Witchcraft, and Religion; A complete OER textbook	ANTH	N/A
Art Appreciation-A World Perspective (text)	ARTH	ARTH 100
Closing Equity Gaps Through OER and a Re-Design of the Art History Survey Curriculum	ARTH	ARTH 110, 120
Glossary for Survey of Western Art from Prehistory through the Middle Ages	ARTH	ARTH 110
A World Perspective of Art History: 1400 CE to the 21st Century	ARTH	ARTH 120
Introduction to Art History I: an OER Textbook for Survey of Western Art from Prehistory through the Middle Ages	ARTH	ARTH 110
C-ID BIOL 155 (Botany/Plant Diversity and Ecology) – A lab manual for General Botany with Lab.	BIOL	BIOL 155
Printable version of “Human Biology” by CK12.org and populated Canvas shell with text, interactive quizzes, homework assignments, worksheets, and activities. Human Biology text and general resources in Canvas Commons.	BIOL	N/A
OER Visual Aids and Artwork for General Biology	BIOL	N/A
Increase representation of marginalized student groups in the Human Biology Textbook	BIOL	N/A
OER Textbook with PowerPoint Lectures for Human Anatomy	BIOL	BIOL 110B
A Comprehensive Open-Source Textbook and Photographic Atlas for Botany / Plant Diversity and Ecology	BIOL	BIOL 155
A Comprehensive Open-Source Textbook for Introduction to Environmental Science	BIOL	ENVS 100
OpenStax Microbiology Ancillaries	BIOL	N/A
Introduction to Biotechnology with Lab	BIOT	BIOT 101X
Revising and updating an existing OER textbook for Computer Information Technology	BUS	BUS 140
Ancillaries for General Chemistry	CHEM	CHEM 110, 120
Argumentation and Debate – An OER Text	COMM	COMM 120
Intercultural Communication - Instructor Resource Manual	COMM	COMM 150
Workplace Safety for US Workers - An OER textbook, workbook, and ancillaries for CTE program certifications	CTE - Various	N/A
Foundational Cooking Methods Videos	CULINARY	N/A

Project Working Title	Discipline	C-ID
Observation and Assessment – Creation of an OER text, in Spanish	ECE/CD	ECE 200
OER Student Performance Assessments and Rubrics for C-ID Child Development and Early Childhood Education Courses	ECE/CD	CDEV/ECE (All)
OER in Spanish for the Teaching in a Diverse Society Course (text)	ECE/CD	ECE 230
Infant/Toddler Development and Infant/Toddler Care and Education (text)	ECE/CD	N/A
Child, Family, and Community OER Text Revision	ECE/CD	CDEV 110
Ancillaries for Principles of Economics Courses	ECON	ECON 201
How Arguments Work: A New OER textbook for Argumentative Writing and Critical Thinking	ENGL	ENGL 105
Writing, Reading, and College Success: A First-Year Composition Course for All Learners	ENGL	ENGL 100
Writing and Critical Thinking Through Literature	ENGL	ENGL 110
Ancillary materials to complete the OER textbook How Arguments Work for C-ID English 105	ENGL	ENGL 105
New content, revisions, and a teacher's guide to enhance an existing textbook for C-ID English 105 and extend it to C-ID English 100	ENGL	ENGL 105, 100
Plug & Play Science: Engaging Lecture Vignettes for Flipped & Digital Biology and Environmental Science/Studies Courses	ENVS	N/A
Advanced Community College ESL Composition: An Integrated Skills Approach (one level below English composition)	ESL	N/A
Reading, Writing, Research, and Reasoning: A Text Equivalent for Advanced ESL Courses (one-level below transfer)	ESL	N/A
Elementary French I and II: Comprehensive OER for First-Year French in LibreTexts with H5P Ancillaries	FRENCH	N/A
Video Production Guide - OER for Beginning Single Camera Production and Beginning Motion Picture Production	FTVE	FTVE 130
Manual for Physical Geography, Laboratory Course	GEOG	GEOG 111
GEOS - Geoscience Equity Opportunities for Students: Making the Earth Accessible through an OER Physical Geology Laboratory Manual	GEOL	GEOL 100L
Canvassing the American Yawp	HIST	HIST 130, 140
Creation of Open Text Alternative for Introduction to Hospitality	HOSP	HOSP 100
Italian-Language Learning Activities Ancillary OER Materials Project	ITALIAN	N/A
Linux Instruction for New User Experience (LINUX) Project OER Linux course, including content, quizzes, labs, videos, and tests	ITIS	ITIS 155
Creating an OER Textbook and Canvas Course Shell for California Community College Information Literacy Courses	LIBRARY	N/A



Project Working Title	Discipline	C-ID
Foundations of Library Services Original OER Textbook	LIBRARY	N/A
Intermediate Algebra (for STEM) Textbook	MATH	N/A
Business Calculus Co-requisite workbook - 33 closed-captioned Learning Glass videos on algebra and calculus concepts.	MATH	MATH 140
College Algebra for Liberal Arts – Support course for college algebra with online textbook links, lecture videos, and online homework collection.	MATH	MATH 150
Statistics for Social Justice	MATH	MATH 110
OER Text and an Online Diet Analysis Tool for Introduction to Nutrition Science	NUTR	NUTR 110
An OER text-equivalent for Business Law/Organizations, Introduction to Law, and Legal Ethics.	PARALEGAL	BUS 125
Online Question Banks and Course Templates for CCC Lower-Division Physics Courses	PHYS	PHYS 105, 110, 205, 210, 215
Online Question Banks and MyOpenMath Course Template for Introductory Astronomy Courses and Additional Online Questions and Features for CCC Lower-Division Physics Courses	PHYS	PHYS 105, 110, 205, 210, 215
OER for Introduction to International Relations (POLS 140)	POLS	POLS 140
New OER for Introduction to Political Science Research Methods Course with Chapter Lecture Slides	POLS	POLS 160
New OER for Introduction to Comparative Government and Politics with Chapter Lecture Slides	POLS	POLS 130
Introduction to Sociology – Revise/Update Introduction to Sociology OER text by Hammond and Cheney	SOCI	SOCI 110
Introduction to Race and Ethnicity/Introduction to Social Justice OER Textbook and Ancillaries	SOCI	SOCI 150, SJS 110
Second-Year Spanish OER Grammar Manual	SPAN	SPAN 200, 210
Spanish 100, Elementary Spanish I; and Spanish 110, Elementary Spanish II OER Ancillaries in the form of LibreTexts and H5P.	SPAN	SPAN 100, 110

Academic Senate for California Community Colleges  
One Capitol Mall, Suite 230 Sacramento, CA 95814  
For information call (916) 445-4753 or email ***info@asccc.org***

You can find this online at: ***ASCCC|OERI***

ASCCC President: Dolores Davison  
ASCCC Executive Director: Krystinne Mica  
OERI Faculty Coordinator: Michelle Pilati