

Z-Degrees In Oregon

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Rationale*

Oregon's [HB 2871](#) (passed in 2015) requires all public colleges and universities to designate courses with no-cost and low-cost materials in the class schedule. This policy assumes that students may make course selections based on the cost of materials. Prominently designating no-cost and low-cost courses in the schedule enables students to make informed choices as they plan their term.

16 out of Oregon's 17 community colleges, and 5 out of Oregon's 7 universities, had implemented the designation as of Fall 2019. This makes it possible to use the schedule to find the Associate of Arts Oregon Transfer (AAOT) degree pathway (at the community colleges) and the General Education pathway (at the universities) with the lowest possible materials cost. Right now, these lowest-cost pathways do not represent a course schedule that any individual would pursue, but demonstrate the significant cost savings that are possible when students have the information and flexibility to choose the lowest-cost option:



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- At the community colleges, the average lowest-cost AAOT degree pathway is \$381.24, or \$4.24 per credit, representing a 75% savings compared to the average cost when always choosing the first section for degree requirements.
- At the universities, the average lowest-cost general education pathway is \$333.01, or \$4.92 per credit, representing a 74% savings compared to the average cost when always choosing the first section for general education requirements.
- As of Fall 2019, two community colleges and one university offered zero-textbook-cost courses that satisfy *all* degree or general education requirements (again, not necessarily a pathway that any individual student would take).

However, without department- and institution-wide commitments to low-cost and no-cost materials, students will have unpredictable experiences within the same curriculum. Those with the most flexibility in their schedules will be able to select the sections designated as no-cost or low-cost, while those with the least flexibility may have to pay more for the same course. The zero-textbook-cost pathways through the degree requirements that were identified at two colleges and one university cannot be guaranteed to be available to all students.

At the moment, the lowest-cost pathway is a reminder of the impact of faculty choices and the importance of prominently designating courses in the class schedule to make course material cost information readily available to students. It has the potential to become a curriculum that can be marketed widely to students because lower course material costs are attractive to community college and university students alike.

* This section was adapted from [Four years and falling: Impact of statewide funding for textbook affordability](#) by [Open Oregon Educational Resources](#), licensed under [CC-BY](#).

Getting started

Gap analysis

Are you closer to a zero-textbook-cost transfer degree (or general education equivalent) than you think? Use the drop-down menu to find out with the Open Oregon Educational Resources interactive Z-Degree graphic: <https://openoregon.org/z-degree/>. The pathway represented here may not represent the exact course sequence that you decide on for your institution's zero-textbook-cost degree, but it will show your progress towards a sequence of high-enrollment, lower-division transfer courses that are low-cost or no-cost.



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Backwards Design

Quill West, Open Education Project Manager at Pierce College, recommends that you think ahead to what your Z-Degree pathway will look like and plan holistically from the beginning. For example, if all courses in the pathway will ultimately have the same look and feel, you will need to start by having all stakeholders agree on a style guide, LMS template, and method of delivering course materials to students - before you start redesigning any courses.

Align Goals with Priorities

Nathan Smith, OER Coordinator, Houston Community College, recommends considering how your goals reflect your campus priorities (for example, if your priority is student savings, then focusing on high-enrollment courses may be a better goal than creating a zero-textbook-cost pathway). In a presentation for 2020 OpenStax CreatorFest he shared lessons learned from HCC's process of creating a Z-Degree (begin [watching presentation at ~32:50](#)). His presentation includes a [worksheet](#) to help individuals or teams define goals and identify resources for getting started.

Explore Case Studies

The Community College Consortium for Open Educational Resources has two collections of Z-degree development case studies. Each case includes sections on motivation, prior experience, planning and challenges, faculty engagement, stakeholder engagement, student awareness and engagement, challenges, outcomes, lessons learned, sustainability, and future aspirations. The case studies are available via [Six Community Colleges Improve Equity with ZTC Degrees and Archives: Case studies](#).

Background

Zero-textbook-cost degree programs have been adopted in several states in the US and several provinces in Canada. The nonprofit organization Achieving the Dream has conducted research and created a support program specifically for zero-textbook-cost (ZTC) degrees in the US. When looking at the development of ZTC degree programs, key themes emerge regarding how these programs have typically been approached and what is likely to make an individual program successful. The following list highlights some attitudes and actions that characterize successful programs (more info: [OER at Scale: The Academic and Economic Outcomes of Achieving the Dream's OER Degree Initiative](#)).



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1. Connect ZTC degrees to aspirational strategic short-term and long-term institutional goals in order to recruit senior administrative support; connect to professional development opportunities in order to recruit faculty support.
2. Identify funds for developing, planning, and promoting ZTC courses and degrees (funding from the state legislature is one common source).
3. Find efficiencies so that entire programs or departments switch to OER as a group rather than in ad-hoc adoption campaigns in order to avoid disjointed pockets of OER adoption.
4. Include key stakeholders when considering developing a ZTC degree including, but not limited to, articulation committees, institutional staff, community partners, individual subject matter experts (usually faculty), and students.
5. CTE programs considering a switch to ZTC need to consult with industry leaders on availability of resources and alignment with professional standards and testing.
6. Identify all material fees associated with a program and differentiate required from optional materials. Textbooks, software subscriptions, uniforms (scrubs, lab coats, etc.) and specialty tools are common materials needed for successful participation in courses.
7. Printed versions of OER need to be visually attractive, accessible (especially for visually impaired students), low- or no-cost, and ideally printed on-campus.

Institutional Commitments

In Oregon, considerable funding and planning has been invested in the development of pathways in higher education. Pathways are programs that map a curriculum by which students can achieve commonly-held academic goals in a timely manner and without accruing excess credits. Examples include a set of general education courses that allow community college students to transfer to a university; [Oregon Transfer Compass](#) sequences; two- and four-year standalone degree programs; and even graduate degree requirements. Pathways attempt a holistic approach to addressing completion goals, which can be interpreted as all student service activities prioritizing student completion and graduation.

Since institutions have the ability and need to form transfer partnerships with other institutions, most community colleges have partnered with at least one university to draft articulation agreements for specific degrees. These documents are agreements between the two institutions that list which courses will be accepted as transfer courses. For community colleges and universities with strong inter-institutional relationships and robust articulation agreements, there is one less barrier to the introduction of ZTC degree programs.

Existing pathways are obvious places to begin consideration of ZTC programs. By way of example, Austin Community College created a program map for their [General Studies in Arts](#)



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[Z-Degree](#). Short descriptions of the most prominent examples of existing pathways in Oregon are provided below, and are summarized from information provided by the Higher Education Coordinating Commission (HECC), the Oregon Community College Association (OCCA), and Oregon Administrative Rules (OARs).

Oregon Transfer Compass

[Core Transfer Maps](#) have been developed by the HECC. The current maps are groups of eight classes that add up to at least 30 credits. The HECC is also working on major-specific transfer maps, such as biology. When completed at an Oregon community college, courses that fit the requirements of these maps are: a) guaranteed to transfer to any Oregon public university; and b) will count toward that university's core bachelors degree requirements. WRI 121 is the only course required by all universities in Oregon, while the other credits are composed of a combination of courses in Arts & Letters, Social Sciences, Natural Sciences, and Math. The Core Transfer Maps focus on a "general education core" and do not offer guidance on Career/Technical Education programs.

Associate of Arts Oregon Transfer (AAOT)

The AAOT is defined by OAR 589-006-0050(5) as "a state-approved associate degree that is intended to prepare students to transfer into upper division courses for a baccalaureate degree." The Office of Community Colleges and Workforce Development (CCWD) has developed [the following requirements](#) for the degree:

- General guidelines: student must complete 90 credits, all courses should be aligned with the student's program of study (academic advisors provide information to the student), all courses must be passed with a grade of "C-" or better, and the student must have a minimum cumulative GPA of 2.0 at the time the AAOT is awarded.
- Foundational requirements: 8 credits of Writing, 1 course of Oral Communication (or Speech), 1 course of Math, 3 credits of Health/Wellness/Fitness, and additional courses in Cultural Literacy, Arts & Letters, Social Sciences, and Science/Math/Computer Science.

While this list may seem short, these are the only statewide requirements in place for the AAOT degree. From here, each institution of Higher Education in Oregon decides which courses meet the requirements. This likely accounts for the wide variety of AAOT degree requirements across the state and the immense challenge transfer students (in particular) face when it comes to completing a degree.

General Education Requirements at Universities

There are seven public universities in Oregon, each with a different set of general education requirements. State agencies that help coordinate curriculum for these institutions acknowledge



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the barriers to successful transfer between universities, and among community colleges and universities. Some items of interest:

- The Transfer Compass program has helped to connect Faculty Senate members at both universities and community colleges in Oregon through the Inter-Institutional Faculty Senate. The committees that create the transfer maps continue to evolve and are composed of appointed faculty, administrators, and librarians.
- An emerging concern in Oregon higher education is the desire to balance the unique academic culture of each university with the pressing need to make transferring between institutions more seamless. This concern is especially pressing for community college students that expect to complete a block of core courses that will be accepted by the university of their choosing without “losing” credits (transferred courses being accepted under the condition that they are electives instead of baccalaureate core courses).

Guided Pathways

This is a program adopted by the Oregon Student Success Center and advanced by the Oregon Community College Association to design and implement “structured academic and career pathways at scale, for all students...this project is meant to help increase completion rates and student achievement across Oregon”.

- [“Guided pathways is a framework that integrates...evidence-based reforms”](#).
- While the State of Oregon is providing training and professional development for community colleges accepted into the first Guided Pathway cohort, there are no clear guidelines in place. Based on information provided by the HECC, implementation has four components: “clarify the paths, help students get on a path, help students stay on their path, and ensure students are learning”. The OSSC is in the process of developing metrics for these aspirational goals.

Communication with Faculty

Adopting low-cost or no-cost course materials is ultimately the responsibility of individual faculty members. Conversations with faculty who are hesitant to adopt OER often include these topics:

- Zero-textbook-cost pathways make commitments on behalf of all faculty (including some who have not even been hired yet)
- Meeting resistance
- Getting to yes
- Hiring practices
- Moving as a department
- Faculty can get started with the OER FAQ: <http://faq.openoregon.org/>



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One challenge in establishing fully low-cost or no-cost pathways is ensuring access to seats in ZTC course sections. As with OER adoption in general, the right of academic freedom is valued and touted by most faculty, and is often defined and defended in labor agreements.

Hypothetically, a college could attempt to implement a ZTC program, only to encounter pushback from faculty who desire using a specific textbook or resource that is not free for their course. Faculty who decide not to use OER when others teaching the same course do may see a drop in enrollment for their specific course section, though we lack research to support this hypothesis.

To address this situation, all institutions can revisit language related to academic freedom that might be included in policies, procedures, or labor agreements. Because all public colleges in Oregon, by historical precedent, have had the room to develop their own unique approach to academic freedom, each college is therefore responsible for adapting to a ZTC program. Even in labor agreements, clauses about academic freedom are vague and difficult to enforce by both the bargaining unit and the college. Perhaps this is a timely opportunity to revisit these statements, upholding the importance of academic freedom while reining in costs for students.

One possible point of faculty resistance may be questions about the quality of OER. If it's free, can it be any good? As with most things, the answer is that it depends, which is why faculty, as subject matter experts, should conduct their own review before adopting any course materials (regardless of copyright status). The [Open Textbook Library](#) is a good source of reviews for open textbooks, for example.

Generally speaking, the research to date suggests that students do the same or better with openly licensed course materials compared to commercially published or all rights reserved materials. Faculty interested in peer-reviewed studies supporting this claim can be directed to explore the Open Education Group's [Review Project](#), which summarizes empirical research on the impact of OER adoption. A meta-analysis by John Hilton, [Open educational resources, student efficacy, and user perceptions: a synthesis of research published between 2015 and 2018](#), suggests that the research findings in this area should give professors pause before asking students to purchase costly traditional texts.



Resources to Support Development of Z-Degree Pathways

Determining Pathways

As mentioned above, research conducted by Achieving the Dream finds that it is more effective and efficient to have an entire program or discipline switch to OER as a group than to create pockets of OER adoption. That said, a pathway approach can lead to prioritizing certain courses in order to create continuity for students. For example, institutions may commit to use OER in all sections of WR 121 because it is required in almost every degree program and will benefit all students regardless of pathway.

Where students have a choice in meeting degree requirements, a decision-making matrix may be useful to prioritize which courses to redesign. For example, the institution will need to determine how many OER options will be available to meet a requirement (all sections? a minimum number of sections per term?). The institution will also need a plan in place to determine which courses will use OER if not all are adopting (e.g., highest enrolled, most expensive current adoption, availability of high-quality OER and ancillaries, most eager faculty, etc). Data to assist with these decisions may be found via your institution's institutional research office; the HECC's Office of Research and Data; or by contacting [Open Oregon Educational Resources](#).

Some institutions may find that the goal of a fully no-cost/low-cost pathway is closer than they think. Research conducted in 2019 found that two community colleges and one university already offer zero-textbook-cost courses that meet *all* degree or general education requirements ([Four years and falling: Impact of statewide funding for textbook affordability](#) and [What is the cost of course materials for a four-year degree at each university in Oregon?](#)). Open Oregon Educational Resources maintains a list of known adoptions of open/free resources, searchable by keyword or discipline, at <https://openoregon.org/resources/>. This list powers an interactive graphic showing how close each community college is to a zero textbook cost degree, available at <https://openoregon.org/z-degree/>.

Marketing to Students

Academic advisors will be crucial stakeholders in helping students navigate ZTC pathways. Recommended points of contact:



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- Advisors at your own institution
- Oregon Academic Advising Association: <http://www.oregonadvising.org/>
- Regional NACADA (National Academic Advising Association): <https://nacada.ksu.edu/Community/Regions/Region-8.aspx>

According to a study conducted by University of Oregon Master of Public Administration capstone students in 2018, students need consistent messaging across all platforms where they search for course and registration information. Students that participated in the survey and in group interviews shared a desire for OER/no-cost low-cost designations, that include both an easily identifiable icon and a short description, to be displayed in more than one location when searching for and registering for courses. Consistent designation across search platforms would likely improve student ability to identify and choose no-cost/low-cost courses (more information: [Evaluating Oregon's Open Educational Resources Designation Requirement](#)). Meeting this need will require coordination between the registrar, schedulers, bookstore manager, IT, and other stakeholders.

Students will also need clear messaging about the availability of ZTC pathways at their institution. Here are four good examples of student-facing web pages marketing similar programs in other states:

- Arizona's A to Z Affordable to Zero Textbook Cost Degrees program: <https://www.scottsdalecc.edu/employees/open-educational-resources>
- Tidewater Community College Textbook-Free Courses: <https://www.tcc.edu/programs/specialty-programs/textbook-free/>
- Pierce Open Pathways: <https://www.pierce.ctc.edu/jblm-pop>
- Houston Community College Z-Degree program (includes short videos): <https://www.hccs.edu/zdegree/>

Assessment

Managers and administrators will want easily adopted/adapted assessment models that demonstrate impact and measure the success of the program. In addition to relying on the office of institutional research at each institution, the following tools may be utilized:

- [OER Adoption Impact Calculator](#)
- Model for demonstrating increased revenue and/or improved student metrics with use of OER:
 - [The Tidewater Z-Degree and the INTRO Model for Sustaining OER Adoption](#)
 - [Maintaining Momentum Toward Graduation: OER and the Course Throughput Rate](#)



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- Study design for determining whether students enrolled in multiple OER courses have higher enrollment intensity: [OER at Scale: The Academic and Economic Outcomes of Achieving the Dream's OER Degree Initiative](#).

Future directions

In order to make zero-textbook-cost pathways the norm, we will need lots of openly licensed sample documents that can help institutions get started. At the time of this writing, we were unable to find examples of the following materials:

- Decision-making matrix to prioritize which courses to redesign for inclusion in the Z-Degree pathway
- Materials aimed at advisors to raise awareness of pathways to direct students to (handout that is close or could be modified to meet this need: [Affordable Course Content Initiatives](#))
- Internal planning and workflow documents

We will also need high-quality research studies to demonstrate impact on a variety of metrics, including student savings, course outcomes, and retention/completion. The biggest study to date of ZTC pathways is the Achieving the Dream report just mentioned, but according to that report, there is not yet a model for studying efficacy of open pedagogy or cumulative impact on students taking all open courses in a pathway. Avenues for future research and sharing include:

- Efficacy of open course materials, particularly disaggregated by demographic segments in order to show impact on traditionally underserved populations
- Long-term studies showing effects on outcomes, enrollment, retention, and completion through entire pathways
- Demonstrating the value of OER and ZTC programs when it comes to meeting the [40-40-20 Educational Attainment goal](#) for the State of Oregon

Last, echoing the Achieving the Dream findings, the need for support for faculty development in promoting innovative teaching and learning that leverages open licensing of educational materials will only increase. Also called open pedagogy, this is an exciting area that highlights academic freedom for faculty and real-world engagement for students.

Oregon community colleges and universities will have to continue adapting to the changing face of higher education, and we feel that ZTC degrees are a huge step in integrating our higher education system. Responding to COVID-19 during Spring 2020 has pushed our institutions in unprecedented ways, and the need for more robust support for openly licensed materials for distance learning has become increasingly apparent. ZTC degrees have the potential to make higher education more accessible and reliable to all Oregon students in a time of uncertainty.



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Glossary*

Term	Synonyms	Definition
5 Rs		Remix, repurpose, revise, reuse, and redistribute are 5 of the actions an openly licensed material allows you to make
Adaptive learning		An educational process that adapts teaching materials and methods to each student's individual needs. Several software solutions use learning analytics to provide an adapted learning path to users.
Blended learning		A teaching approach that combines online and in-person learning, allowing a higher degree of personalisation and learner autonomy
Creative Commons		A non-profit organization that has designed a series of licenses for the use, reuse and distribution of materials. Authors can select a license to apply to their work based on which permissions they wish to attach to their material.
Digital literacy		The essential skills required for using digital technology competently and participating in a globally-integrated society that uses data to accomplish most daily tasks
E-learning		Electronic learning, using a computer or electronic media to deliver elements of learning either as part of an online course or in a classroom.
Flipped classroom		A teaching model in which students access directed teaching at home, for example by watching video lectures, and then using class time to apply new knowledge in a collaborative and interactive space.
Gamification		The use of game mechanics and design principles in a (learning) activity to increase motivation and engagement. Some examples of game mechanics are competition, badges, leveling up, and immediate feedback.



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Learning Management System (LMS)		A cloud-based software suite that hosts, manages, and analyzes data associated with educational courses and programs. Moodle, Blackboard, and Canvas are popular examples.
Learning object		Any-sized unit of information or material (whether digital or not) that can be used to support learning.
Localisation		Adaptation of OER from any other place to suit the culture, language, and other requirements of a new other specific local context, where the resulting OER appears to have been created in the end-user local culture
Online learning		Online learning refers to courses delivered over the Internet.
Open		A piece of data or content is open if anyone is free to use, reuse, and redistribute it — subject only, at most, to the requirement to attribute and/or share-alike.
Open access		A publishing model whereby authors make their content freely available, often with partial copyright restrictions or low copyright barriers.
Open assessment		The process of making assessment of students work open and driven by community rather than closed and proprietary.
Open business models		Using ideas from the open source movement to make money out of open approaches.
Open content		Content that is made available under an open licence.
Open courseware		Courses or course components that are available under an open license.
Open data		Open data is data that can be freely used, reused and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike.
Open educational data	<i>Open education data</i>	Data, such as administrative data created by educational institutions and educational practices, that is made available under an open licence. It can be used to improve efficiency, allow students to make informed decisions etc.



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Open Educational Resources	<i>OER</i>	Any online material that is freely accessible and openly licensed for anyone to reuse and repurpose for teaching, learning, and researching.
Open learner		An individual who embraces open technologies and approaches in their learning.
Open learning		Learning that incorporates open technologies and approaches.
Open Licensing	<i>see also creative commons and public domain</i>	Copyright licenses that allow use of materials in support of the 5 Rs
Open movement		Broad-reaching movement who embrace and support aspects of openness, such as open licensing.
Open pedagogy	<i>Open education</i>	Teaching that incorporates open technologies and approaches such as use of OERs.
Open practice		Using open technologies, approaches and open pedagogy as part of teaching.
Open publishers	<i>Open Platform</i>	Publishers and software that provide interfaces and products supporting openly licensed materials
Open repository		A repository that is fully open to users by containing open access materials and openly licensed metadata.
Open research		Research that is conducted using open practices and approaches. Data will be openly published and research papers will be open access.
Open science		Approaches that enable scientific knowledge to be free to use, re-use and distribute without legal, technological or social restrictions. Open science means many things, but primarily scientific knowledge that people are free to use, re-use and distribute without legal, technological or social restrictions.
Open source software		Software with a free source code that is often developed through peer-production. Anyone can use or modify the code for their own purposes.
Open washing		Materials with the appearance of open licensing while continuing to involve proprietary practices
Open wrapping		A combination of open and proprietary resources



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Public Domain		The collection of works which are not eligible for copyright, whose copyright term has expired, or whose author has donated the work to the public domain.
Redistribute		To distribute a material in a different way or format
Remix		the modification or re-interpretation of a resource, possibly combining fragments of material from various sources.
Repurpose		To make use of a resource either after modification or for a purpose different than that for which it was originally intended.
Reuse		To make use of a resource as it is, for its intended purpose.
Revise		To edit, update, or modify a resource for its intended purpose
Z Degree	<i>zed degree, zero degree, zero-textbook-cost (ZTC)</i>	A degree path with no required educational materials costs such as textbooks or lab manuals

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