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Massachusetts Department of Higher Education
OER Assessment KPIs Implementation Guide

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Massachusetts Department of Higher Education

OER Assessment KPIs Implementation Guide

Purpose of this Guide

The purpose of this document is to provide guidance to the public higher education institutions in the state of Massachusetts on suggested practices for collecting data and reporting progress to key stakeholders at their institution and to the Massachusetts Department of Higher Education (DHE) on Open Educational Resources used at each institution.

This guide is intended for those individuals who will be gathering and reporting OER usage to their institutional constituents and the Massachusetts Board of Higher Education. The local OER assessment group gathering and reporting this data may include the MA OER Advisory Council representative, assessment and institutional research officers and personnel, librarians or instructional design staff who may have assessment responsibilities related to OER, and OER champions.

The document addresses each of the Key Performance Indicators developed by the MA State OER Advisory Council and approved by the Massachusetts Board of Higher Education.

In addition to this document, readers may also want to consult the [OER Course Marking Implementation Guide](#), which was developed in June 2021 by the Course Flagging Committee of the Massachusetts OER Advisory Council and may be found in the DHE website at mass.edu/strategic/oer listed under Resources.

For more information please see [Appendix A: Letter \(7/27/2021\)](#) from Dr. Carlos E. Santiago, Commissioner of Higher Education regarding OER Course Marking Implementation and OER Key Performance Indicators.

The Massachusetts OER Advisory Council voted on 3/21/22 to recommend the use of this document in OER data collection.

Thank you to all the members of the Massachusetts OER Advisory Council who provided valuable feedback and pragmatic changes, with special thanks to Donna Mellen, Marilyn Billings and Robert Awkward.

Definitions

Average cost per textbook = [\\$117](#) (SPARC, 2018)

DFW Rates - A “DFW” rate for a course is the percentage of students who receive a D, receive an F, or withdraw from the course.

Local OER assessment group - a group of individuals that can include the MA OER Advisory Council representative, assessment and institutional research officers and personnel, librarians or instructional design staff who may have assessment responsibilities related to OER, and OER champions.

Low Cost Materials - Those course sections that have materials that cost \$50 or less in total. See Definition of OER (below) and the materials included in that definition.

No Cost Materials - Those course sections that have \$0 materials cost. See Definition of OER (below) and the materials included in that definition.

No/Low Course Materials- Those course sections that are identified as having no cost AND those course sections costing \$50 or less.

OER - The term Open Educational Resources (OER) has a very specific meaning. The Board of Higher Education adopted this definition of OER on October 22, 2019:

Open Educational Resources (OER) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions Source: Open Educational Resources. Retrieved June 18, 2019, from United Nations Educational, Scientific, and Cultural Organization Web site:
<https://en.unesco.org/themes/building-knowledge-societies/oer>.

For purposes of collecting data in alignment with the [state’s OER Course Marking Implementation Guide](#) (pages 6-9), instructional materials that may be considered No/Low Materials are:

- OER: OER are resources released either under an open license or in the public domain that allow users to use the materials at no cost, repurpose the materials and share the materials with others. (See [David Wiley’s Five R’s](#) - Retain, Revise, Remix, Reuse, and Redistribute)
- No Cost: Instructional materials are provided to students at no cost. No cost instructional materials are generally funded by grants, institutional funding models, or a compilation of materials that are not OER.
- Library Resources: Unlimited simultaneous user resources from the campus library including ebooks, digital journal articles, streaming films, etc.

Professional Development - Includes faculty and staff workshops, communities of practice, information sessions or other activities in which OER is a topic.

Reporting Year - July 1 - June 30. Academic reporting year is as follows, Summer 2, Fall, Winter, Spring, Summer 1.

Example: For AY2022 (July 1, 2021 - June 30, 2022). If a course begins in one reporting year and ends in another, include it in the year the course began. (ex. Summer I course runs May 25, 2022 - July 4, 2022 then the course is reported in AY2022, not AY2023.

Sections - An individual undergraduate course offering distinguished from other offerings by date, time, location, instructor, and delivery mode. Include traditional undergraduate course sections and labs. Exclude independent studies, dissertations, practicums, internships, externships, directed studies, etc.

Example: ENGL 100 Writing I = Course

20 ENGL 1100 Writing I courses offered in Fall semester = 20 sections

1 course 20 sections

Students - undergraduate students, whether enrolled in day, evening, online or in-person

Students in key demographic groups - Race, ethnicity, Pell Grant recipients data and gender data will be collected (see KPI 6).

Key Performance Indicators

The OER Key Performance Indicators approved by the Massachusetts Board of Higher Education align with the [COUP Framework](#) developed by the Open Education Group. The Framework allows for OER to be assessed through four complementary frames:

1. **Cost** that can be used to evaluate the financial and cost savings associated with the use of OER
2. **Outcomes** that can be used to evaluate the impact and effectiveness of OER on student learning and success
3. **Usage** that can be used to evaluate the ways in which faculty and students interact with OER
4. **Perceptions** that can be used to evaluate faculty and students views and feelings about OER.

There is at least one Key Performance Indicator for each frame. The table below provides cursory information about each KPI including the time frame for when data collection begins, when the data is to be reported to the Dept. of Higher Education, and links to more information about the data gathering associated with each KPI.

COST -- OUTCOMES -- USAGE -- PERCEPTIONS			
COUP FRAMEWORK			
Year Data Collection Begins	Description	Data to report to BHE	KPI
<u>COST</u>			
Starts in Year 1 (AY2022)	Total cost savings for students (For more info, see pp. 11-12)	DHE will calculate cost savings. Institutions need to submit: <ul style="list-style-type: none"> ○ Number of students enrolled in No Cost course sections 	KPI 1A

		<ul style="list-style-type: none"> ○ Number of students enrolled in Low Cost course sections 	
Starts in Year 1 (AY2022)	Institutional investments in Open Education (For more info, see pp. 13-14)	DHE will calculate Return on Investment. Institutions need to submit: <ul style="list-style-type: none"> ○ Stipends paid to individuals attending Open Education professional development opportunities ○ Stipends paid for faculty who adopt, adapt, or create Open Education via a grant program 	KPI 1B
<u>OUTCOMES</u>			
Starts in Year 1 (AY2022)	Percentage of No/Low cost course sections (For more info, see pp. 14-15)	Number of sections with No Cost materials Number of sections with Low Cost materials Total number of sections offered	KPI 2
Starts in Year 1 (AY2022)	Percentage of Students in No/Low cost sections (For more info, see pp. 15-16)	Number of students enrolled in No Cost sections Number of students enrolled in Low Cost sections Number of students enrolled in all sections	KPI 3

<p>Starts in Year 2 (AY2023)</p>	<p>Percentage of students with D, F, W grades in No/Low course sections. (For more info, see p. 18)</p>	<p>Number of students with D, F, W enrolled in No Cost sections</p> <p>Number of students with D, F, W enrolled in Low Cost sections</p> <p>Number of students with D, F, W enrolled in all non-No/Low sections</p>	<p>KPI 5</p>
<p>Starts in Year 2 (AY2023)</p>	<p>Students in key demographic groups taking No/Low course section. (For more info, see pp. 18-20)</p>	<p>Number of students segmented by race (White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or other Pacific Islander) enrolled in No Cost course sections</p> <p>Number of students segmented by race (White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or other Pacific Islander) enrolled in Low Cost course sections</p> <p>Number of students segmented by race (White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or other Pacific Islander) enrolled in non-No/Low Cost course sections</p> <p>Number of Latinx students enrolled in No Cost course sections</p> <p>Number of Latinx students in Low Cost course sections</p>	<p>KPI 6</p>

		<p>Number of Latinx students enrolled in non-No/Low Cost course sections</p> <p>Number of Pell Grant students enrolled in No cost course sections</p> <p>Number of Pell Grant students enrolled in Low Cost course sections</p> <p>Number of Pell Grant students enrolled in non-No/Low Cost course sections</p> <p>Number of Male/Female students enrolled in No cost course sections</p> <p>Number of Male/Female students enrolled in Low Cost course sections</p> <p>Number of Male/Female students enrolled in non-No/Low Cost course section</p>	
<u>USAGE</u>			
<p>Starts in Year 1 (AY2022)</p>	<p>Number of faculty/staff participating in professional development in No/Low training and education (For more info, see pp. 16-17).</p>	<p>Number of Professional Development Opportunities</p> <p>Number of Professional Development Opportunities hours offered</p> <p>Number of faculty/staff participating in professional development opportunities</p> <p>Total number of faculty/staff staff hours spent in professional</p>	<p>KPI 4</p>

development opportunities			
<u>PERCEPTIONS</u>			
Starts in Year 3 (AY2024)	Survey of Faculty/Student Perspectives on No/Low Resources. (For more info, see p. 20)	Data to reported is still to be determined	KPI 7

Calculating and Communicating the KPIs

NOTE: The DHE will report data in the aggregate - either for all institutions or by segment (i.e., community college, state universities, and the UMass system). Individual data by institution will not be publicly reported by DHE.

KPI 1A: Total Cost Savings for Students

Reporting Requirements: Annually beginning in AY2022

Special Note for KPI 1:

For this metric, each institution does not need to report their cost savings. The DHE will use the student data reported in KPI 3 and calculate cost savings based on the SPARC \$117 average book cost.

Each institution is able to use the textbook cost of their choice (\$117, \$100, actual book cost, etc.) for internal reporting purposes, if they wish.

Listed below are the steps the DHE will use to calculate total cost savings.

DHE Step 1: Calculate cost savings of No Cost materials using average textbook costs.

Information Needed:

1. Average textbook cost is \$117 ([SPARC average](#))
2. Number of course sections with No Cost materials (See KPI 2 for details)
3. Sum of students in those course sections. (See KPI 3 for details)

Formula: Cost savings = National average costs of textbooks multiplied by the number of students enrolled in no cost course sections

Scenario: 2025 students were enrolled in No Cost course sections

Example: \$117 x 2025 students = **\$236,925**

DHE Step 2: Calculate cost savings of Low Cost materials using average textbook cost and low cost item (\$50)

Note: Even if an institution has specific low cost pricing for each section, use the \$50 average for purposes of reporting to the state.

Information Needed:

1. Average textbook cost is \$117 (SPARC average)
2. Low cost textbook price is \$50
3. Number of course sections with low cost materials
4. Sum of students in those course sections

Formula: (National average textbook price (\$117) - average low cost material price (\$50) multiplied by the number of students enrolled in low cost course sections

Scenario: 2,295 students were enrolled in Low Cost course sections

Example:

$\$117 - \$50 = \$67$ in textbook savings per student

$\$67 \times 2,295 \text{ students} = \mathbf{\$153,765}$

DHE Step 3: Calculate TOTAL cost savings using the cost savings of No Cost materials and the cost savings of Low Cost materials

Information Needed:

1. Cost savings of No Cost materials
2. Cost savings of Low Cost materials

Formula: Total cost savings = Cost savings of No Cost materials + Cost savings of Low Cost materials

Example: $\$236,925 + \$153,765 = \$390,690$ (using the dollar amounts from 1 and 2 above)

DATA TO REPORT TO THE STATE

- Number of students enrolled in No Cost course sections (See KPI 3 for details)
- Number of students enrolled in Low Cost course sections (See KPI 3 for details)

KPI 1B: Institutional investments in Open Education

Reporting Requirements: Annually beginning in AY2022

Special Note for KPI 1B:

For this metric, each institution does not need to calculate the return on investment (ROI). The DHE will use the cost savings they calculate in KPI 1A and the fund expenditures provided in this metric to calculate ROI.

Listed below are the steps the DHE will use to calculate return on investment.

If your institution does not provide stipends or grants for Open Education, please use \$0.

Information Needed:

1. Stipend paid to individuals attending Open Education professional development opportunities
2. Stipends paid for faculty who adopt, adapt, or create Open Education via a grant program
3. Cost savings calculated in KPI 1A by DHE.

DHE Step 1: Calculate Return on Investment for Institutional investments in No/Low Course materials.

Formula:

Step 1: $ROI = \text{Cost savings for students} - \text{Stipends paid} / \text{Stipends paid}$

Step 2: Multiple ROI by 100 to get the percentage.

Scenario: Textbook savings from no/low cost course materials total \$390,690. The University spent \$30,000 in grants for faculty to transition from commercial resources to No/Low cost course materials and stipends for individuals to attend OER professional development programs.

Example: $ROI: (\$390,690 - \$30,000) / \$30,000 = 12.023$

12.023 multiplied by 100 = 1,202% Return on Investment

Another way to phrase this is for every \$1 spent on open education investments, \$12.00 in course material savings is realized, and this savings will continue as future sections are taught.

DATA TO REPORT TO THE STATE

- Stipends paid to individuals attending Open Education professional development opportunities
- Stipends paid for faculty who adopt, adapt, or create Open Education via a grant program.

KPI 2: Percentage of No/Low cost course sections

Reporting Requirements: Annually beginning in AY2022

NOTE: Include traditional undergraduate course sections and labs. Exclude independent studies, dissertations, practicums, internships, externships and directed studies.

Step 1: No Cost materials

Information Needed:

1. Number of course sections with No Cost materials
2. Total number of course sections offered

Example: A University offers **1,000 course sections** during an academic year. Of those 1,000 course sections, 75 are identified as No Cost.

- **Formula: Number of No Cost course sections / Total number of course sections offered**
Percentage of course sections using No Cost materials in relation to total course sections offered is 7.5% or $75/1000$ where 75 is the number of no cost course sections and 1,000 is the number of total course sections.

Step 2: Low Cost materials

Information Needed:

1. Number of course sections with Low Cost materials
2. Total number of course sections offered

Example: A University offers **1,000 course sections** during an academic year. Of those 1,000 course sections, 85 are identified as Low Cost.

- **Formula: Number of Low Cost course sections / Total number of course sections offered**
Percentage of course sections using Low Cost materials in relation to total course sections offered is 8.5% or 85/1000 where 85 is the number of Low Cost course sections and 1000 is the number of total course sections.

DATA TO REPORT TO THE STATE

- Number of course sections with No Cost materials
- Number of course sections with Low Cost materials
- Total number of course sections offered

KPI 3: Percentage of students in No/Low cost course sections

*This KPI counts the total number of students enrolled in OER course sections rather than unique students enrolled. One student may be enrolled in multiple OER course sections and is counted for each enrollment. For purposes of this KPI, do not deduplicate student enrollment.

Reporting Requirements: Annually beginning in AY2022

Information Needed:

1. Number of No Cost course sections
2. Number of students enrolled in No Cost course sections
3. Number of Low Cost course sections
4. Number of student enrolled in Low Cost course sections
5. Total number of course sections
6. Total number of students enrolled in each section

Step 1. Identify the number of **course sections** that have **No Cost materials** . (See KPI 2 - course course sections)

- **Scenario:** 75 course course sections use No Cost materials

Step 2. Tally the number of students enrolled in No Cost course sections.

- **Scenario:** 2,025 students were enrolled in the 75 course course sections

Step 3. Tally the number of students enrolled in every section offered within your reporting timeframe.

- **Scenario:** 1,000 course course sections were offered overall. Total student enrollment in these course sections totals 24,000

Step 4. Calculate the percentage. Number of students enrolled in No Cost course sections / Number of students enrolled in all course sections.

- **Scenario:** 2,025/24,000 or 8.4%

Process: Calculating student enrollment in Low Cost course sections

Step 1. Identify the number of **course sections** that have **Low Cost materials** . (See KPI 2 - course course sections)

- **Scenario:** 85 course course sections use Low Cost materials

Step 2. Tally the number of students enrolled in those course sections.

- **Scenario:** 2,295 students were enrolled in the 75 course course sections

Step 3. Tally the number of students enrolled in every section offered within your reporting timeframe.

- **Scenario:** 1,000 course course sections were offered overall. Total student enrollment in these course sections total: 24,000

Step 4. Calculate the percentage. Number of students enrolled in Low Cost course sections / Number of students enrolled in all course sections.

- **Scenario:** 2,295/24,000 or 9.5%

DATA TO REPORT TO THE STATE

- Number of students enrolled in No Cost course sections
- Number of students enrolled in Low Cost course sections
- Number of students enrolled in all course sections

KPI 4: Number of faculty/staff participating in professional development in OER training and education

Reporting Requirements: Annually beginning AY2022

Information Needed:

- Number of professional development sessions
- Length of professional development sessions
- Number of faculty/staff at each session

Calculating number of faculty/staff participating in Open Education professional development programs

Example: The following No/Low professional development opportunities were offered:

Activity	Time Length	Number of Participants
Presentation introducing faculty/staff to No/Low resources	1 hour	30
Workshop on locating No/Low resources	1 hours	25
Workshop on evaluating No/Low resources	3 hours	15
Community of practice	8 hours	10

Formula: Calculate the number of hours faculty/staff spent in No/Low professional development

Activity	Time Length	# of Participants	Total Hours
Presentation introducing faculty/staff to No/Low resources	1 hour	30	30
Workshop on locating No/Low resources	1 hours	25	25
Workshop on evaluating No/Low resources	3 hours	15	45
Community of practice	8 hours	10	80
Total: 4	13	80	180

DATA TO REPORT TO THE STATE

- Number of Professional Development Opportunities
- Number of Professional Development Opportunities hours offered
- Number of faculty/staff participating in professional development opportunities
- Total number of faculty/staff staff hours spent in professional development opportunities

KPI 5: :Percentage of students with D, F, W grades in No/Low course sections

Reporting Requirements: Annually beginning in AY2023

Partners: Institutional Research and/or Registrar

Information Needed:

1. Number of students enrolled in No Cost course sections (see KPI 3)
2. Number of students with D, F, W enrolled in No Cost course sections
3. Number of students enrolled in Low Cost course sections (see KPI 3)
4. Number of students with D, F, W enrolled in Low Cost course sections
5. Number of students enrolled in **non**-No/Low course sections (see KPI 3)
6. Number of students with D, F, W enrolled in all **non**-No/Low course sections

Contact your local Institutional Research office for DFW numbers. Each institution can use the information above to determine their own DFW rates comparison.

DATA TO REPORT TO THE STATE.

- Number of students with D, F, W enrolled in No Cost course sections
- Number of students with D, F, W enrolled in Low Cost course sections
- Number of students with D, F, W enrolled in all **non**-No/Low course sections

Note: See KPI 3, data already reported will be used by the State to develop DFW rates.

KPI 6: Students in key demographic groups taking No/Low course section

Reporting Requirements: Annually beginning in AY2023

Partners: Institutional Research and/or Registrar

Key demographic groups will be based on:

- Race
- Ethnicity⁸

- Pell Grant
- Gender

For this KPI we will look at key demographic groups which include race, ethnicity, pell grant status and gender.

DATA TO REPORT TO THE STATE.

- Number of students enrolled in No Cost course sections (KPI 3)
 - Number of White students enrolled in No Cost course sections
 - Number of Black or African-American students enrolled in No Cost course sections
 - Number of American Indian or Alaska Native students enrolled in No Cost course sections
 - Number of Asian students enrolled in No Cost course sections by race
 - Number of Native Hawaiian or other Pacific Islander students enrolled in No Cost course sections
- Number of students enrolled in Low Cost course sections
 - Number of White students enrolled in Low Cost course sections
 - Number of Black or African-American students enrolled in Low Cost course sections
 - Number of American Indian or Alaska Native students enrolled in Low Cost course sections
 - Number of Asian students enrolled in Low Cost course sections by race
 - Number of Native Hawaiian or other Pacific Islander students enrolled in Low Cost course sections
- Number of students enrolled in **non-No/Low** course sections (KPI3)
 - Number of White students enrolled in **non-No/Low** course sections
 - Number of Black or African-American students enrolled in **non-No/Low** course sections
 - Number of American Indian or Alaska Native students enrolled in **non-No/Low** course sections
 - Number of Asian students enrolled in **non-No/Low** course sections
 - Number of Native Hawaiian or other Pacific Islander students enrolled in **non-No/Low** course sections
- Number of Latinx students enrolled in No cost course sections
- Number of Latinx students enrolled in Low cost course sections
- Number of Latinx students enrolled in **non-No/Low** cost course sections
- Number of Pell Grant recipient students enrolled in No cost course sections
- Number of Pell Grant recipient students enrolled in Low cost course sections
- Number of Pell Grant recipient students enrolled in **non-No/Low** cost course sections
- Number of students enrolled in No Cost course sections (KPI 3) by gender

- a. Number of Male students enrolled in No Cost course sections by gender
- b. Number of Female students enrolled in No Cost course sections by gender
- c. Number of Non-binary students enrolled in No Cost course sections by gender
- 11. Number of students enrolled in Low Cost course sections (KPI 3) by gender
 - a. Number of Male students enrolled in Low Cost course sections by gender
 - b. Number of Female students enrolled in Low Cost course sections by gender
 - c. Number of Non-binary students enrolled in Low Cost course sections by gender
- 12. Number of students enrolled in **non-No/Low** course sections (KPI 3) by gender
 - a. Number of Male students enrolled in No Cost course sections by gender
 - b. Number of Female students enrolled in No Cost course sections by gender

Note: See KPI 3, data already reported will be used by the State to develop demographic comparisons.

Illustrative Example:

	OER course sections	Non-OER section	Total course sections
Total # Students (duplicates)	2,025	21,975	24,000
Total # students in key demographic groups (duplicates)	900	2,600	3,500
%	44% (900/2,025)	12% (2,600/21,975)	15% (3,500/24,000)

KPI 7: Survey of Faculty/Student Perspectives on No/Low Resources

Reporting Requirements: Annually beginning AY2024

Information Needed:

- List of faculty/student emails
- Student survey instrument (needs to be developed and will be used across institutions)
- Faculty survey instrument (needs to be developed and will be used across institutions)

This KPI is currently under development.

Suggested Timeline

Note: This is a recommended schedule for collecting data. Some institutions may prefer a different schedule in order to get compiled year-end data.

YEAR 1 (AY2022)

Dates	Activity	People Involved
July 27, 2021	Letter to the University & College Presidents from Massachusetts DHE asking for OER KPIs process to begin in AY2022.	DHE's Carlos E. Santiago
Summer/Fall 2021	Local OER assessment group formed at each institution to begin work. The assessment group can include the MA OER Advisory Council representative, assessment and institutional research officers and personnel, librarians or instructional design staff who may have assessment responsibilities related to OER, and OER champions.	Local OER Assessment Group
January 2022	Collect Fall Courses Semester Data. See Key Performance Indicators table . Note: Consider collecting Summer II data at the same time, if available.	Local OER Assessment Group
June 2022	Collect Spring Courses Semester Data. Collect Winter Courses Data if appropriate. See Key Performance Indicators table .	Local OER Assessment Group
July- August 2022	Collect Summer I Courses Semester Data. See Key Performance Indicators table . Note: Keep Summer I and Summer II data separate.	Local OER Assessment Group
July- August 2022	Compile Summer II, Fall, Spring and Summer I Data. See Key Performance Indicators table .	Local OER Assessment Group
August 31, 2022	Report Key Performance Indicators Data (KPI 1-4) to DHE.	Local OER Assessment Group

YEAR 2 (AY2023)

Dates	Activity	People Involved
Early Fall 2022	Compile data from Massachusetts community colleges, state universities and UMass universities. Results shared with the MA OER Advisory Council.	DHE and Statewide OER Coordinator
Late Fall 2022	Discuss Key Performance Indicator Data from Year 1 with MA OER Advisory Council at late Fall 2022 meeting. Discuss data and suggest actions in response to data. Deputy Commissioner and the Statewide OER Coordinator (DHE) present Key Performance Indicator Data from Year 1 with MA BHE at late Fall 2022 meeting. Discuss data and suggest actions in response to data.	Statewide OER Coordinator (DHE) and the MA OER Advisory Council
Fall 2022	Collect Summer II Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
January 2023	Collect Fall Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
June 2023	Collect Spring Courses Semester Data. Collect Winter Courses Data if appropriate. See Key Performance Indicators table .	Local OER Assessment Group
July- August 2023	Collect Summer I Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
July- August 2023	Compile Summer II, Fall, Spring and Summer I Data.	Local OER Assessment Group and DHE
August 31, 2023	Report Key Performance Indicators Data (KPIs 1-6) to DHE.	Local OER Assessment Group

YEAR 3 (AY2024)

Dates	Activity	People Involved
Early Fall 2023	Compile Year 2 data from Massachusetts community colleges, state universities and UMass. universities. Current and past years’ results shared with the MA OER Advisory Council.	DHE and Statewide OER Coordinator
Late Fall 2023	<p>Discuss Key Performance Indicator Data from Year 2 with MA OER Advisory Council at late Fall 2023 meeting. Discuss data and suggest actions in response to data. (Note: We may need “closing loop” language here depending on if action is taken in year 2.)</p> <p>Deputy Commissioner and Statewide OER Coordinator (DHE) present Key Performance Indicator Data from Year 1 with MA BHE at late Fall 2022 meeting. Discuss data and suggest actions in response to data.</p>	Statewide OER Coordinator and Deputy Commissioner (DHE) and MA OER Advisory Council
Fall 2023	Collect Summer II Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
January 2024	Collect Fall Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
June 2024	<p>Collect Spring Courses Semester Data. Collect Winter Courses Data if appropriate.</p> <p>See Key Performance Indicators table.</p>	Local OER Assessment Group
July- August 2024	Collect Summer I Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
July- August 2024	Compile Summer II, Fall, Spring and Summer I Data.	Local OER Assessment Group
August 31, 2024	Report Key Performance Indicators Data (KPIs 1-7) to DHE.	Local OER Assessment Group

YEAR 4 (AY2025)

Dates	Activity	People Involved
Early Fall 2024	Compile data from Massachusetts community colleges, state universities and UMass universities. Current and past years' results shared with MA OER Advisory Council.	DHE and Statewide OER Coordinator
Late Fall 2024	Discuss Key Performance Indicators from Year 3 with MA OER Advisory Council at late Fall 2024 meeting. Discuss data and suggest actions in response to data. (Note: We may need "closing loop" language here depending on if action is taken in year 3.) Deputy Commissioner and Statewide OER Coordinator (DHE) present Key Performance Indicator Data from Year 1 with MA BHE at late Fall 2022 meeting. Discuss data and suggest actions in response to data.	Statewide OER Coordinator and Deputy Commissioner (DHE) and MA OER Advisory Council
Fall 2024	Collect Summer II Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
January 2025	Collect Fall Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
June 2025	Collect Spring Courses Semester Data. Collect Winter Courses Data if appropriate. See Key Performance Indicators table .	Local OER Assessment Group
July- August 2025	Collect Summer I Courses Semester Data. See Key Performance Indicators table .	Local OER Assessment Group
July- August 2025	Compile Summer II, Fall, Spring and Summer I Data.	Local OER Assessment Group
August 31, 2025	Report Key Performance Indicators Data (KPIs 1-7) to DHE.	Local OER Assessment Group

An Exemplar of MA Colleges and Institutions

Fitchburg State University, Fitchburg, MA (Currently has no course markings)

Type: Undergraduate and Graduate University

Student Information System: Banner

Registration System: Web4

Bookstore: Follet

Has Course Marking been Instituted: No

Key Partners: Institutional Research, Registrar, Bookstore

Contact Person: Jacalyn Kremer

Links to Files: TBD

Process for Collection of KPIs:

Fitchburg State University is in the process of developing procedures to identify no cost (OER, free resources, and library resources) and low cost (course materials under \$50).

We began with undergraduate courses and plan to incorporate graduate courses after we have an established procedure.

The Fitchburg State bookstore provided the team with a spreadsheet of textbook adoptions for required textbooks only. It took a couple of attempts to obtain a list in a format that was manipulable. To determine whether a course was no cost or low cost, we used the new print textbook price instead of the price for rentals, used, or digital copies. Using a variety of custom sorts, we were able to remove graduate course materials, and the majority of digital copies. However, we did have to manually review the spreadsheet to determine whether the remaining items listed under a course were duplicate titles or whether the course required multiple textbooks. The manual review took approximately 1-2 hours but as we become more familiar with the layout of the spreadsheet and types or resources used by classes, we expect this process to become more efficient and take less time.

In addition to the bookstore spreadsheet, we also had Institutional Research create a spreadsheet of courses offered during a given term. This data was pulled from Banner. The spreadsheet included the following information (an example of each field is included):

CRN: 12345

Subj: ENGL

Number: 1100

Section: 01

Title: Writing I

Instructor Last: Railton

Instructor First: Ben

Dept: English

Campus (Day or GCE): Day

Actual Enrollment: 18

Modality: Hybrid

We merged the bookstore spreadsheet and the spreadsheet from Institutional Research together so we have one spreadsheet that lists course information and textbook prices. Because faculty do not always report their textbooks to the bookstore, we expect that there will be some missing fields as a result of the merge.

We plan to follow-up with faculty who are teaching the courses with missing textbook information with a very basic survey. We will provide the faculty with the course information and ask them to select 1 of the items from a drop-down menu :No Cost/<\$50/>\$50

Once we have a completed spreadsheet, we will have all of the data needed to report on KPIs 1-3.

For KPIs 4 and 5, we will need to work with our Institutional Research Team and/or Registrar office to get the student demographic data (race, ethnicity and Pell grant recipient) and final grades for all students enrolled in all classes. Through a series of Excel pivot tables, we would be able to report on the data needed for KPI 4 and 5.

Continuing Challenges: We recognize that this is an imperfect process so we are discussing how we balance 100% accuracy versus pragmatism.

We hope to refine the process so that it is more efficient and less time consuming or as we move to course markings, a new process for identifying courses is identified.

What if you do not have the partnerships and technical skills to do this work? If you are not able to obtain bookstore data or don't have the Excel skills on staff to manipulate and merge data sheets, you could do a faculty survey like the one described above. To make it as easy as possible for faculty, it would be helpful to have Institutional Research or Registrar run a report of courses offered during the semester and maintain a spreadsheet. You may have a lower response rate but you would have at least some data.

Appendices

Appendix A: Letter (7/27/2021) from Carlos E. Santiago, Commissioner, MA DHE Re: OER Course Marking Implementation and OER Key Performance Indicators



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Carlos E. Santiago, *Commissioner*
Chris Gabrieli, *Chairman*
Massachusetts Board of Higher Education

MEMORANDUM

TO: Community College Presidents
State University Presidents
Martin Meehan, President, University of Massachusetts System

FR: Carlos E. Santiago, Commissioner

CC: P. Marshall, Deputy Commissioner for Academic Affairs & Student Success
R. Awkward, Assistant Commissioner for Academic Effectiveness

RE: **OER Course Marking Implementation and OER Key Performance Indicators**

DATE: July 27, 2021

Background

As you recall, I circulated the draft *OER (Open Educational Resources) Course Marking Implementation Guidelines* and OER Key Performance Indicators (KPIs) to you for your institutional review and input before they were presented to the Board of Higher Education at the June meeting. I received feedback from a representative sample of institutions, including two community colleges, three state universities and one UMass campus. All six institutions expressed their support for this initiative, and commented

on the quality of the guidelines and the usefulness of the KPIs. A few offered additional recommendations that were considered and incorporated as appropriate.

The Board unanimously approved the motion from the Academic Affairs Committee to accept the guidelines and the KPIs and directed me to work with the OER Advisory Council and with each of you to implement course marking across the public higher education system. The Board views providing students information that will enable them to make choices that reduce their cost of attending higher education, provides faculty additional teaching and learning tools, and increases students' likelihood of persistence and completion - especially for our minoritized students - as totally in alignment with our Equity Agenda.

The Request

Therefore, if you have not already done so, I am writing to request that you begin the effort of implementing course marking at your institution for your students using the *OER Course Marking Implementation Guidelines*. Ten Massachusetts public institutions have already enacted course marking. In fact, their experiences along with information from other states strongly influenced the development of the guidelines. In addition, the Board has asked me to report to them next year on progress in the area of implementing course marking and KPIs at our public institutions.

As a reminder, OER Key Performance Indicators (KPIs) are comprised of six measures of effectiveness of OER at our institutions. The ability of your institution to track and report on this data will be significantly enhanced by implementing course marking. The OER Advisory Council understood that course marking might not be fully implemented in AY2022. However, the KPIs should be implemented in AY2022, and the ones that were chosen are ones they believe they can still manually track and report. Studies suggest that investment in OER provides an enormous return on investment for invested public dollars. Accordingly, we need to systematically track and report on how well the OER initiative is progressing in order to continue to increase its utilization and to demonstrate why it is deserving of additional funding support.

I recognize this implementation will require varying levels of effort for each institution. The guidelines strongly encourage each institution to create an Implementation Committee comprised of key stakeholders at your campus as the first step. Further, each of you have a representative on the OER Advisory Council who overwhelmingly supported the implementation of course marking and KPIs. The OER Advisory Council will be meeting to determine other ways they can help institutions to implement course marking. In addition, your OER representative should be the lead person at your institution to help guide this important initiative.

Closing

I know that I can count on each of you to implement this important equity initiative. I am hopeful that institutions who have yet to implement course marking will be able to complete the process of doing so during academic year 2021-2022.

To assist your efforts, I have directed Deputy Commissioner Patricia A. Marshall and Assistant Commissioner Robert Awkward to work with the OER Advisory Council and with each of you to implement course marking and the OER Key Performance Indicators. If you have any question, please feel free to contact Dr. Marshall at pmarshall@dhe.mass.edu and Dr. Awkward at rawkward@dhe.mass.edu.

Thank you for your continued support of this important statewide initiative.

Attachment A: [*OER Course Marking Implementation Guidelines*](#)

Attachment B: [*OER Key Performance Indicators*](#)

Appendix B: Letter (9/1/21) from Bob Awkward to MA OER Advisory Council Re: OER Key Performance Indicators

MEMORANDUM

Attachment B

TO: OER Advisory Council

FR: Bob Awkward

CC: M. Billings, P. Marshall, S. Tashjian

RE: OER Key Performance Indicators

DATE: September 1, 2020 (revised June 8, 2021)

Background

The confluence of COVID-19, faculty needing high quality teaching and learning resources to do online instruction, and students continuing to demand no/low-cost academic textbooks and ancillaries creates a unique opportunity. For many of you, this has been a labor of love moving this needle forward for far too long. Yet, continuing fiscal pressures will also require us – and everyone – to demonstrate return on public investment.

With this background in mind, the OER Steering Committee took on the effort to identify some key performance indicators (KPIs) that each institution and the state as a whole could use to measure the impact of our efforts. After conducting research as to what other states (e.g., Rhode Island and Minnesota), other institutions (e.g., University of Wisconsin-Madison and Salem State University), and other organizations (e.g., UNESCO and the 2012 Paris OER Declaration) have done, we discovered a framework that came up in several places that is popularly called COUP.

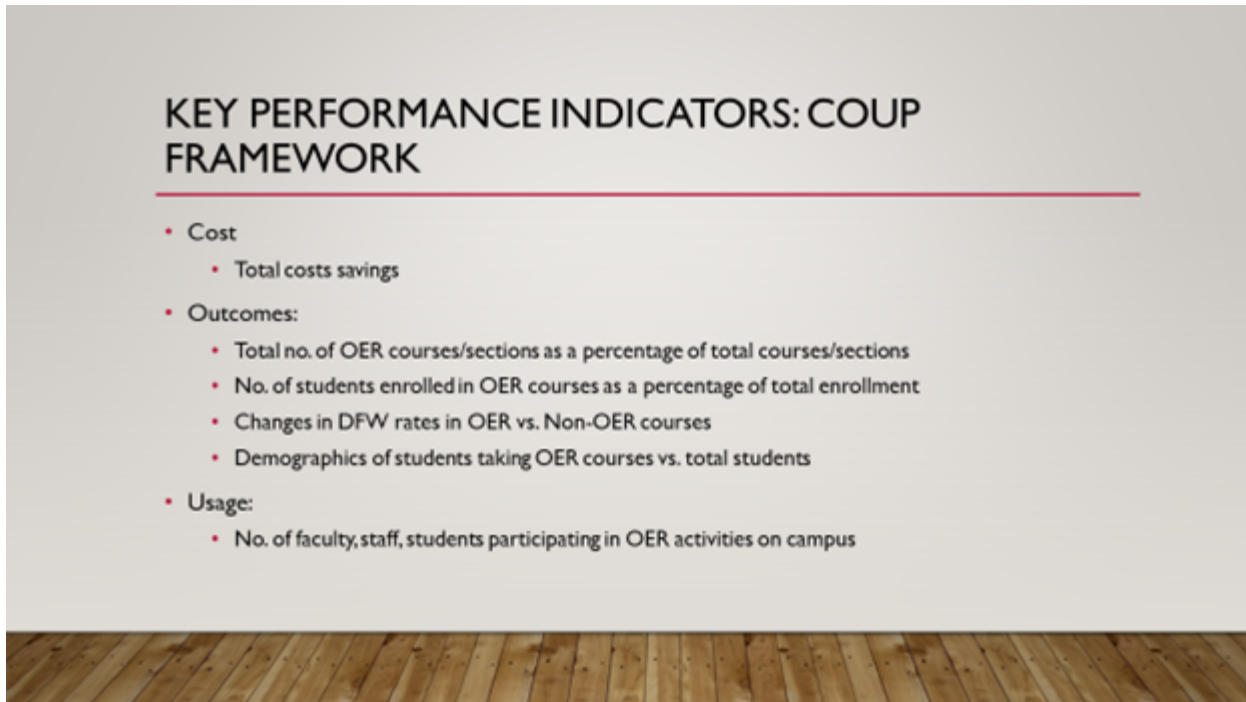
The COUP Framework (<https://openedgroup.org/coup>) is the Open Education Group’s approach to studying the impact of open educational resources (like open textbooks) and open pedagogy in secondary and post-secondary education. COUP stands for:

- Cost
- Outcomes
- Usage
- Perceptions

After much consideration as to the many different ways that OER value could be measured, we decided that it would make the most sense to keep it simple for this first year. As we get better at capturing the data necessary to conduct more sophisticated measurements through Course Marking implementation, we will begin to implement those. Thus, we recommend the following to the OER Advisory Council for action for AY2021.

Here is the proposal from the OER Steering Committee for the OER Key Performance Indicators that we believe were the most direct measures we could all capture and that would clearly demonstrate the value that OER is having at our institutions.

This was adopted by the OER Advisory Council at its November 16, 2020 meeting.



The image shows a presentation slide with a light gray background and a wooden floor texture at the bottom. The title 'KEY PERFORMANCE INDICATORS: COUP FRAMEWORK' is centered at the top in a bold, black, sans-serif font, underlined with a thin red horizontal line. Below the title is a bulleted list of three main categories: 'Cost', 'Outcomes:', and 'Usage:'. Each category has one or more sub-bullets. The 'Cost' category has one sub-bullet: 'Total costs savings'. The 'Outcomes:' category has four sub-bullets: 'Total no. of OER courses/sections as a percentage of total courses/sections', 'No. of students enrolled in OER courses as a percentage of total enrollment', 'Changes in DFW rates in OER vs. Non-OER courses', and 'Demographics of students taking OER courses vs. total students'. The 'Usage:' category has one sub-bullet: 'No. of faculty, staff, students participating in OER activities on campus'.

KEY PERFORMANCE INDICATORS: COUP FRAMEWORK

- Cost
 - Total costs savings
- Outcomes:
 - Total no. of OER courses/sections as a percentage of total courses/sections
 - No. of students enrolled in OER courses as a percentage of total enrollment
 - Changes in DFW rates in OER vs. Non-OER courses
 - Demographics of students taking OER courses vs. total students
- Usage:
 - No. of faculty, staff, students participating in OER activities on campus

OER KEY PERFORMANCE INDICATORS & HOW TO CALCULATE

COUP	KPIs	Notes
Cost		
Level 1: Institutions beginning OER	Total cost savings = Costs of textbooks (based on SPARC national average[1] x the number of students x the number of course sections	Year One
Outcomes		
Level 1: Institutions beginning OER	Number of OER courses and course sections calculated as a percentage of total courses and course sections	Year One
	Number of OER enrollments (duplicated) calculated as a	Year One

	percentage of total enrollments	
Equity Measure	Changes in DFW rates for students enrolled in OER versus students in non-OER courses	Year One
Equity Measure	Report on the demographics of students taking OER courses versus those taking non-OER courses to ensure impact on our minoritized students	Year One
Usage		
Level 1: Institutions beginning OER	Number of faculty/staff professional development in OER training and education	Year One

Appendix C: Letter (11/23/2021) from Patricia Marshall, Deputy Commissioner for Academic Affairs & Student Success, MA DHE Re: Implementing OER Course Markings and Key Performance Indicators



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Carlos E. Santiago
Commissioner
Chris Gabrieli
Board Chairman

MEMORANDUM

TO: Community College Chief Academic Officers

State University Chief Academic Officers

Dr. Katherine Newman, University of Massachusetts System

FR: Patricia A. Marshall, Deputy Commissioner for Academic Affairs & Student Success

CC: R. Awkward

RE: **Implementing OER Course Marking & Key Performance Indicators**

DATE: November 23, 2021

Background

I am writing to follow up on Commissioner Santiago's memorandum dated July 26 informing you that the Board of Higher Education (BHE) had voted to receive the *OER Course Marking Implementation*

Guide and to direct the Commissioner to work with the institutions of public higher education to implement this initiative. This occurred, in part, because of the value of increasing the utilization of open educational resources (OER), the quality of the report that was developed, and the institutional feedback received providing overwhelming support for course marking and the OER Key Performance Indicators (KPIs). In addition, the Commissioner is to report on our progress at the June 2022 BHE meeting.

The OER Advisory Council members representing the 29 public institutions of higher education are quite aware of the challenges ahead, including time, effort, and resource allocation. As a result, they have considered how they and the Department of Higher Education (DHE) can help. Their first recommendation involves the critical role that you as academic leaders play in articulating the importance of implementing this initiative at your institution. The research is quite clear that course marking cannot be successfully implemented if there is not strong and consistent academic leadership.

The second recommendation is that everyone who will be involved with this effort would benefit from reading the *OER Course Marking Implementation Guide* that outlines:

- the rationale for implementing course marking
- steps to implement course marking
- definitions of terms
- best practices that were informed by the institutions that have already implemented this initiative in Massachusetts as well as in other states

I hope that you are able to share the attached implementation guide widely with your campus community, particularly with key stakeholders who are advancing this work.

Moving Forward

We also recognize that each of your institutions have unique cultures, are at different points on the course marking implementation continuum, and will need to implement these recommendations differently based on local factors. In order to advance this work on your campus, you may consider establishing an OER task force and inviting key players (e.g., faculty, faculty union representative, librarian, student, administration, IT, registrar, bookstore manager, and your OER Advisory Council

representative) to provide their input and expertise. You might also consider charging the OER task force with the following activities:

- conducting surveys of OER users on your campus as to their awareness and needs
- using the survey results, the *Implementation Guide*, and feedback from the OER task force to identify what is needed to implement course marking
- presenting this information to the relevant governance committee so they may have a more informed discussion
- gaining the support of faculty governance

On many of our public campuses the creation of an OER task force has helped to build the infrastructure necessary to implement course marking and to gain the support of all key constituencies in advancing this work.

In addition to the recommendations outlined above, we would like to offer a series of Zoom sessions designed to provide functional leaders on your campuses with the information they need to successfully advance the recommendations in the *OER Course Marking Implementation Guide*. These sessions will be led by staff from institutions that have already implemented course marking and will be designed for Institutional Research, the Registrar, the Bookstore Manager, Information Technology, and the OER Advisory Council representative. Once the sessions have been scheduled, I am hoping you might consider sharing the invitations with the appropriate members of your campus community.

OER Key Performance Indicators

At the June 2021 BHE meeting, the Board also adopted six OER Key Performance Indicators (KPIs) that are to be implemented this academic year. These KPIs will allow us to be more systematic in tracking and reporting on the impact of OER, including:

- cost savings for students
- outcomes (i.e., the number of OER vs. non-OER courses/sections, the number of students enrolled in OER vs. non-OER courses/sections, changes in DFW rates, and the demographics of the students)
- usage (i.e., the number of faculty, staff and students participating in OER activities on your campuses)

After additional discussion, the OER Advisory Council (through its OER Course Flagging Committee), has come to realize that until course marking is fully implemented, we may need to scale back the number of performance measures institutions can implement in AY2022 from six to four, as much of this will be performed manually. Once course marking is implemented, it will be much easier to electronically aggregate and report on this data.

In addition, the OER Advisory Council is currently developing a detailed implementation guide to facilitate the enactment of the OER Key Performance Indicators. I will provide you more information about this in a subsequent communication.

Closing

I hope these suggestions and offers of assistance are helpful and will enable you to begin the process of implementing the recommendations in the *OER Course Marking Implementation Guide*. If you have any questions related to the content of this memo, please do not hesitate to contact me at pmarshall@dhe.mass.edu or Dr. Awkward at rawkward@dhe.mass.edu. As always, thank you for your ongoing support of this important initiative.

Attachment: *OER Course Marking Implementation Guide*

Appendix D: Sample Fitchburg State University Assessment Plan

Fitchburg State University Open and Affordable Education Assessment Plan for Undergraduate Students

Version 1.0 - May 2021. Draft approved by FSU Open and Affordable Education Committee in April 2021.

This draft will be presented to the Massachusetts OER Statewide Advisory Board on Monday, May 17 and the FSU Academic Affairs team on May 26, 2021.

This assessment plan is designed to evaluate the growth and effectiveness of the university's open and affordable education initiatives. Metrics identified in this plan align with the [Massachusetts Board of Higher Education proposed metrics](#) which are based on the [Open Education Group's COUP Framework](#).

Objectives currently do not include baseline data or target goals. Baseline data needs to be collected and based on that information target goals can be set. It is anticipated that the assessment plan could go into effect during AY 2022-2023.

Following the assessment plan are strategies for implementation which provide questions for consideration when collecting data to establish baseline metrics and setting target goals.

General Metrics

Goal 1: Open and Affordable Educational Resources will become the rule rather than the exception for course materials

Objective 1:

By June 2025, of all undergraduate course sections offered, the use of No/Low course materials will increase from X% to Y%.

Objective 2:

By June 2025, the number of undergraduate students enrolled in a course section using No/Low course materials will increase from X% to Y%.

Cost

Goal 1: Fitchburg State University students will financially benefit from the incorporation of open and affordable course materials into the university curriculum.

Objective 1:

By June 2025, the total cost savings in textbooks to students enrolled in No/Low courses will increase from \$X per academic year to \$Y per academic year.

Goal 2: Institutional investments in Open Education will result in student textbook savings.

Objective 1:

By June 2025, for every \$1 spent on OER grant incentives, the return on investment in textbook savings will be X% per academic year.

Outcomes

Goal 1: Students enrolled in courses using No/Low course materials will see increased improvements in academic performance.

Objective 1:

Students enrolled in No/Low courses will have lower D/F/W rates than students enrolled in similar courses with commercial textbooks.

Objective 2:

Students enrolled in No/Low courses will score as well as or better than students enrolled in courses with commercial textbooks on student learning outcomes.

Usage

Goal 1: Fitchburg State University faculty will exercise OER permissions and licensing with Open Educational materials.

Objective 1A:

By 2025, the number of faculty adopting Open Educational Materials will increase from X% to Y%.

Objective 1B:

By 2025, the number of faculty who adapt existing Open Educational Materials will increase from X% to Y%.

NOTE: adapt entails any of the following:

Deleting material from an OER

Inserting other open material inside the OER

Moving material around within the OER

Editting material in the OER

Objective 1C:

By 2025, the number of faculty who create Open Educational Materials will increase from X% to Y%.

Objective 2:

By 2025, the number of faculty participating in OER professional development opportunities will increase from X% to Y%.

Perceptions

Goal 1: Faculty recognize the value and quality of Open Educational Resources.

Objective 1:

The number of faculty who perceive the quality of Open Educational Resources to be comparable to or better than commercial textbooks will increase from X% to Y%.

Objective 2:

The number of faculty who perceive increased student engagement as a result of using No/Low course materials will increase from X% to Y%.

Goal 2: Students are satisfied with the ease of access and affordability of No/Low course materials.

Objective 1:

X% of students are highly satisfied with ease of access to No/Low course materials.

Objective 2:

X% of students believe they learned as much or more from an open educational resource than a traditional textbook.