

# Zero Textbook Cost (ZTC) Acceleration Grant Collaboration Cohort Economics Final Report

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## **INTRODUCTION**

The Economics Collaboration Cohort consisted of five colleges. All of the colleges are working on the same pathway, the Economics Associate of Arts for Transfer (AA-T) degree. As this pathway only has two required courses in the discipline, the opportunities for collaboration were limited.

## **COLLABORATION COHORT PURPOSE**

The Academic Senate for California Community Colleges (ASCCC) Open Educational Resources Initiative (OERI) facilitated the work of the ZTC Acceleration Grant Economics Collaboration Cohort. Although this process was introduced to prevent the duplication of effort, it also provides a means to ensure the awareness of available OER and other sustainable means of achieving ZTC status, share OER development plans, and identify opportunities for collaboration across colleges. At the conclusion of the cohort process, the OERI will provide a report to the California Community Colleges Chancellor's Office (CCCCO) that will document the work of the cohort, verify the absence of duplicative plans, and/or delineate how duplication will be prevented or minimized.

## **ECONOMICS COLLABORATION COHORT – MEMBER COLLEGES AND ZTC PATHWAYS**

The Economics Collaboration Cohort consisted of the following colleges that were all working on the Economics AA-T.

- American River College (ARC)
- College of Alameda (CoA)
- Diablo Valley College (DVC)
- Palomar College
- Southwestern College (SWC)

## **STATUS OF ECONOMICS REQUIRED CORE COURSES SPECIFIED IN THE ECONOMICS TRANSFER MODEL CURRICULUM AT COHORT COLLEGES**

The Economics Transfer Model Curriculum (TMC) specifies two economics courses in the required core, Principles of Macroeconomics and Principles of Microeconomics. No other economics courses have C-ID designations and no other economics courses are identified in the TMC, although additional economics courses can be included as options in the degree.

### **Principles of Macroeconomics (C-ID ECON 202)**

Currently ZTC – ARC, CoA, DVC, Palomar, Southwestern  
ARC, CoA, Palomar, and Southwestern are independently creating homework/problem sets.

CoA is creating supplemental resources and ARC, Palomar, and Southwestern are collaborating on curating supplemental resources. The curated supplemental materials,

organized by topic, may include, but are not limited to, instructional videos, podcasts, government handouts, and formative practice activities.

### **Principles of Microeconomics (C-ID ECON 201)**

Currently ZTC – ARC, CoA, DVC, Palomar, Southwestern

ARC, CoA, Palomar, and Southwestern are independently creating homework/problem sets.

CoA is creating supplemental resources and ARC, Palomar, and Southwestern are collaborating on curating supplemental resources. The curated supplemental materials, organized by topic, may include, but are not limited to, instructional videos, podcasts, government handouts, and formative practice activities.

## **STATUS OF ECONOMICS LIST A AND B COURSES IN THE ECONOMICS ASSOCIATE DEGREES FOR TRANSFER OFFERED AT COHORT COLLEGES**

While the options for List A and B are numerous, the Cohort appeared to have little knowledge of the status of non-economics courses. Given the lack of information and/or plans, it is not possible to determine whether or not the funded activities of the college are duplicative in nature.

### **List A Courses**

*Finite Mathematics (C-ID MATH 130)*

OER starting point to be determined (TBD) - DVC

*Single Variable Calculus (C-ID MATH 221)*

TBD – Southwestern

*Financial Accounting (C-ID ACCT 110)*

TBD – Southwestern

Unknown – ARC, DVC

*Managerial Accounting (C-ID ACCT 120)*

TBD – Southwestern

Unknown – ARC, DVC

*Business Information Systems/Computer Information Systems (C-ID BUS 140)*

TBD – Palomar, Southwestern

Unknown – ARC

*Business Communications (C-ID BUS 115)*

TBD – Palomar, Southwestern

Unknown – ARC

## List B Courses

### *CSU-Transferable Economics Electives*

#### *Economics of Public Issues*

ZTC - DVC

#### *Economic Justice*

ZTC - DVC

#### *Comparative Economic Systems*

Creating and/or adapting a textbook and supplemental resources - Palomar

#### *Economic History of the United States*

Creating and/or adapting a textbook and supplemental resources - Palomar

#### *Environmental Economics*

Creating and/or adapting a textbook and supplemental resources - Palomar

#### *Introduction to Labor Studies*

Creating and/or adapting a textbook and supplemental resources - Palomar

#### *Multivariable Calculus (C-ID MATH 230)*

TBD – DVC, Southwestern

#### *Introduction to Linear Algebra*

TBD – DVC, Southwestern

## CONCLUSIONS

The Economics Collaboration Cohort convened synchronously via Zoom on April 3, 2024. The ASCCC OERI presented the group with the results of the data collection process and asked for clarity where data were missing. In addition, the ASCCC OERI presented available OER for the cohort's consideration. A follow-up meeting was held to discuss potential collaborations on May 10, 2024 and August 19, 2024.

In conclusion, the Cohort identified problem sets and supplemental resources as gaps for the discipline. This resulted in a collaborative project to curate and organize existing supplemental resources by topic to be integrated into course content. The curated supplemental materials, organized by topic, may include, but are not limited to, instructional videos, podcasts, government handouts, and formative practice activities. Cohort colleges that are creating new supplemental resources, as well as those collaborating to curate existing supplemental resources, are encouraged to share them. While several colleges indicated an interest in creating problem sets, participants indicated a desire to pursue development locally. The homework efforts may potentially

result in duplication so collaboration cohort members are encouraged to share project details and progress.

## APPENDIX 1 – COURSES SPECIFIED IN THE ECONOMICS TRANSFER MODEL CURRICULUM (TMC)

| Course Title  | C-ID Designation (if applicable)                       |
|---|--|
| <b>Economics TMC Required Core</b>  |  |
| Principles of Macroeconomics  | ECON 202   |
| Principles of Microeconomics  | ECON 201   |
| Introduction to Statistics  | MATH 110   |
| Business Calculus (Calc) or<br>Single Variable Calc I – Early Transcendentals or<br>Single Variable Calc I – Late Transcendentals or<br>Single Variable Calc Sequence | MATH 140 or<br>MATH 210 or<br>MATH 211 or<br>MATH 900S |
| <b>Economics TMC - List A (1 course)</b>  |  |
| Any course articulated as major preparation for the Economics major at any CSU campus   |  |
| Finite Mathematics  | MATH 130   |
| Single Variable Calc II – Early Transcendentals or<br>Single Variable Calc II – Late Transcendentals  | MATH 220 or<br>MATH 221                                |
| Financial Accounting  | ACCT 110   |
| Managerial Accounting   | ACCT 120   |
| Business Information Systems  | BUS 140  |
| Business Communications   | BUS 115  |
| <b>Economics TMC - List B (1 course)</b>  |  |
| Any course not used in List A   |  |
| Any lower division Economics elective course that is CSU transferable   |  |
| Any CSU transferable introductory course in the social sciences articulated as filling Cal-GETC Area 4  |  |
| Multivariable Calculus  | MATH 230   |
| Introduction to Linear Algebra  | MATH 250   |

## APPENDIX 2 – RESOURCES IN USE OR IDENTIFIED BY ECONOMICS COLLABORATION COHORT COLLEGES

| Resource  | Course(s)                                    | College(s)   |
|---|--|--|
| <a href="#">Principles of Microeconomics (OpenStax)</a> | Principles of Microeconomics (C-ID ECON 201) | American River, Diablo Valley, Palomar, Southwestern |
| <a href="#">Principles of Macroeconomics (OpenStax)</a> | Principles of Macroeconomics (C-ID ECON 202) | American River, Diablo Valley, Palomar, Southwestern |



## APPENDIX 3 – AVAILABLE OER FOR ECONOMICS ZERO TEXTBOOK COST ASSOCIATE OF ARTS FOR TRANSFER

The following list provides examples of existing Open Educational Resources (OER) that can be used for the indicated courses. The structure presented here aligns with the [Economics Transfer Model Curriculum](#). Access curated collections of resources for Economics at [Open Educational Resources and Economics](#) and [OER and the Economics TMC](#). Please note that the list below is representative, not comprehensive.

### Required “Core” Courses:

Principles of Macroeconomics (**[C-ID ECON 202](#)**)

- [Principles of Macroeconomics 3e \(Greenlaw and Shapiro, 2022\) \(OpenStax\) \(CC BY 2.0\)](#)

Principles of Microeconomics (**[C-ID ECON 201](#)**)

- [Principles of Microeconomics 3e \(Greenlaw and Shapiro, 2022\) \(OpenStax\) \(CC BY 2.0\)](#)

Introduction to Statistics (**[C-ID MATH 110](#)**)

- [OpenIntro Statistics \(Diez, Barr, and Cetinkaya-Rundel\) \(CC BY-SA\)](#)
- [Statistics Using Technology \(Kozak\) \(CC BY-SA\) – Coconino Community College website](#)
- [Introductory Statistics \(OpenStax\) – LibreTexts \(CC BY 4.0\)](#)
- [Foundations in Statistical Reasoning \(Kaslik\) – LibreTexts \(CC BY-SA-NC\)](#)

Calculus Options

**Business Calculus ([C-ID MATH 140](#))**

- [Applied Calculus \(Calaway, Hoffman, and Lippman\) \(CC BY\)](#)

**or Single Variable Calculus I Early Transcendentals ([C-ID MATH 210](#)) or Single Variable Calculus I Late Transcendentals ([C-ID MATH 211](#))**

- [Contemporary Calculus I \(Hoffman\) \(CC BY\)](#)
- [Community Calculus \(Guichard\) \(CC BY-NC-SA\)](#)
- [APEX Calculus 1 \(Hartman\);](#)
- [Active Calculus \(Boelkins et al., 2017\)](#)
- [Calculus Vol 1 \(Strang, Herman\) – OpenStax](#)

**List A – One of the following:**

Finite Mathematics (C-ID [MATH 130](#))

- [Applied Finite Mathematics \(Sekhon and Bloom, 2016\) \(CC BY\)](#)
- [Finite Math – Lumen Learning \(Licenses vary\)](#)

Single Variable Calculus II – Early Transcendentals (C-ID [MATH 220](#)) or Single Variable Calculus II – Late Transcendentals (C-ID [MATH 221](#))

- [Contemporary Calculus I \(Hoffman\) \(CC BY\)](#)
- [Community Calculus \(Guichard\) \(CC BY-NC-SA\)](#)
- [Calculus Vol 1 \(Strang, Herman\) – OpenStax](#)

Financial Accounting ([C-ID ACCT 110](#))

- [Financial Accounting \(University of Minnesota Libraries Publishing\)](#)
- [Principles of Accounting, Volume 1: Financial Accounting \(OpenStax\)](#)

Managerial Accounting ([C-ID ACCT 120](#))

- [Managerial Accounting \(University of Minnesota Libraries Publishing\)](#)
- [Principles of Accounting, Volume 2: Managerial Accounting \(OpenStax\)](#)

Business Information Systems, Computer Information Systems ([C-ID BUS 140](#))

- [Information Systems for Business \(Pham et al., 2021\) – LibreTexts \(CC BY-NC\)](#)

Business Communication ([C-ID BUS 115](#))

- [Business English for Success \(McLean S., 2011\) Saylor Foundation \(CC-BY-NC-SA\)](#)
- [Communication Beginnings: An Introductory Listening and Speaking Text for English Language Learners. \(Abrahams D., Portland State University Library, 2017\) \(CC-BY-NC\)](#)

**List B – One of the following:**

Multivariable Calculus ([C-ID MATH 230](#))

- [Active Calculus \(Boelkins et al., 2017\)](#)
- [Calculus Volume 3 \(Strang and Herman, 2022\) – OpenStax \(CC BY-NC-SA\)](#)

Introduction to Linear Algebra ([C-ID MATH 250](#))

- [Linear Algebra \(Heffron\) \(CC BY-SA 2.5\)](#)
- [Linear Algebra Bookshelf \(LibreTexts\) \(CC BY-NC-SA 3.0\)](#)
- [A First Course in Linear Algebra \(Kuttler, 2022\) – LibreTexts \(CC BY\)](#)

## APPENDIX 4 – ANTICIPATED NEW OPEN EDUCATIONAL RESOURCES

| Course                                | Project                         | College(s)            |
|---------------------------------------|---------------------------------|-----------------------|
| ECON 201 Principles of Microeconomics | Curating supplemental resources | ARC, Palomar, and SWC |
| ECON 202 Principles of Macroeconomics | Curating supplemental resources | ARC, Palomar, and SWC |

## APPENDIX 5 – ZTC ACCELERATION GRANT ECONOMICS COLLABORATION COHORT MEMO



**ACADEMIC SENATE**  
for California Community Colleges  
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SUBJECT: Economics ZTC Acceleration Grant Collaboration Cohort  
ASCCC OERI FACILITATOR: Shagun Kaur, ASCCC OERI Project Facilitator

### **Cohort Participants and Data Collection**

The following colleges participated in the Economics Collaboration Cohort and all are working on establishing an Economics Associate of Arts for Transfer (AA-T) Zero Textbook Cost (ZTC) pathway:

- American River College (ARC)
- College of Alameda (CoA)
- Diablo Valley College (DVC)
- Palomar College
- Southwestern College (SWC)

The ASCCC OERI collected course level data for each of the courses in the pathway including current ZTC status, adopted resources, and plans to convert a course to ZTC to identify overlap and areas of potential collaboration. Since all colleges are converting the Economics AA-T, the courses were grouped using the Economics Transfer Model Curriculum (TMC) to identify commonalities.

### **Cohort Convening**

The Economics Collaboration Cohort convened synchronously via Zoom on April 3, 2024. The ASCCC OERI presented the group with the results of the data collection process and asked for clarity where data were missing. In addition, the ASCCC OERI presented available OER for the cohort's consideration. A follow-up meeting was held on May 20 to discuss potential collaborative projects.

### **Findings**

The status and plans for the required Economics AA-T courses are listed below. While all colleges that provided data indicated that both of the required economics courses (macroeconomics and microeconomics) in the degree are currently ZTC, most indicated the need for additional work to increase adoption rates at their institution. In addition, DVC indicated that they were focusing on the calculus requirements for their degree. They were invited to participate in the Mathematics Collaboration Cohort and their plans will be reported in the Mathematics Final Report.

### *Required Core*

#### Principles of Microeconomics (C-ID ECON 201)

- ARC – ZTC. Creating problem sets and collaborating on curating supplemental resources.
- CoA – ZTC. Creating problem sets and supplemental resources.
- DVC – ZTC
- Palomar – ZTC. Creating ancillaries and collaborating on curating supplemental resources.
- SWC – ZTC. Creating homework and collaborating on curating supplemental resources.

#### *Principles of Macroeconomics (C-ID ECON 202)*

- ARC – ZTC. Creating problem sets and collaborating on curating supplemental resources.
- CoA – ZTC. Creating problem sets and supplemental resources.
- DVC – ZTC
- Palomar – ZTC. Creating ancillaries and collaborating on curating supplemental resources.
- SWC – ZTC. Creating homework and collaborating on curating supplemental resources.

The Economics Collaboration Cohort has resulted in a collaborative effort to curate supplemental resources for microeconomics and macroeconomics courses by topic. These curated supplemental resources can include, but are not limited to, instructional videos, podcasts, government institution handouts, and formative practice activities. All cohort participants have access to the collaborative plans to ensure they can consider adopting the products upon completion.

#### *Additional Courses*

- DVC: Economics of Public Issues – ZTC
- DVC: Economic Justice – ZTC
- Palomar: Comparative Economic Systems – Creating or adapting OER
- Palomar: Economic History of the US – Creating or adapting OER
- Palomar: Environmental Econ – Creating or adapting OER
- Palomar: Intro to Labor Studies – Creating or adapting OER

The local courses appear to be non-duplicative and cohort members were encouraged to share any resources or materials that could be relevant.

## **Conclusions**

The collaboration cohort identified problem sets and supplemental resources as gaps for the discipline. This resulted in a project to curate and organize existing supplemental resources by topic to be integrated into course content. Cohort members are encouraged to share any new supplemental resources created to be included. While several colleges indicated an interest in creating problem sets, participants indicated a desire to pursue development locally. The homework efforts may potentially result in duplication so collaboration cohort members are encouraged to share project details and progress.