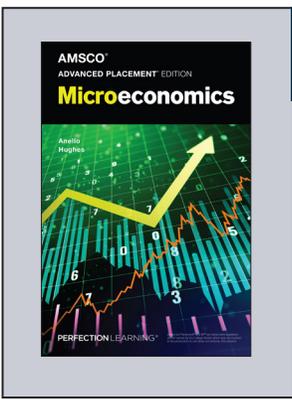
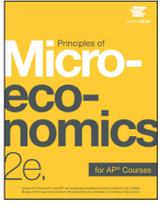


# Perfection Learning® AMSCO® Coursebooks Paired with Open Source Textbooks

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## Advanced Placement® Microeconomics



**Principles of Microeconomics for AP® Courses, 2nd edition**  
2021  
Steven A. Greenlaw & David Shapiro  
ISBN: 9781947172456

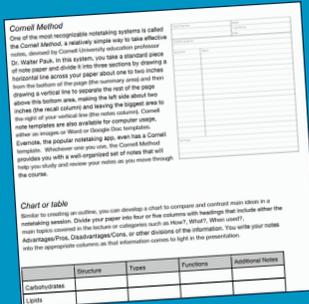
**OpenStax**  
<https://openstax.org/details/books/principles-microeconomics-ap-courses-2e>  
**Formats:** Online, app, PDF  
**Print Edition:** Available from Amazon  
**Course cartridges:** Canvas, Blackboard

**Course resources** | The following resources are available to supplement your course.

### ..... FOR STUDENTS .....

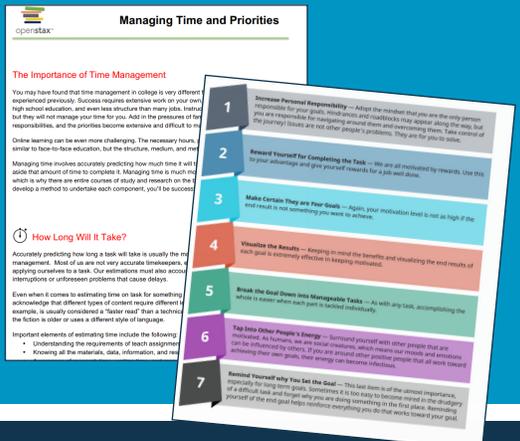
#### Reading and Notetaking Guide

Adapted from OpenStax *College Success*, this guide discusses effective reading approaches, study tips, and notetaking strategies for students.



#### Student Time Management Guide

Adapted from OpenStax *College Success*, this guide includes information about estimating time on tasks, avoiding procrastination, and using strategies to stick to your priorities.



#### Key Terms Quizlet

Practice key terms for each chapter using a curated set of flashcards on Quizlet's platform.

#### Editable End-of-Chapter Questions

Can be edited and assigned through Google Docs.

#### Instructor Answer Guide

Includes detailed solutions to all the end-of-chapter questions and supplemental test items.

#### Test Bank

Contains multiple-choice, short-answer, and essay questions for each chapter.

### FOR TEACHERS

#### Enhanced Lecture PowerPoint Slides

These lecture slides include selected graphics from the text, key concepts and definitions, examples, and discussion questions.

#### Instructor Answer Guide

Get detailed solutions to all the end-of-chapter questions in your OpenStax book. No students allowed!

#### Test Bank

The test bank contains multiple choice, short answer, and essay questions for each chapter of the textbook. Since many instructors use these questions in graded assignments, we

## Supplementary Features in OpenStax Microeconomics

The following ideas show how the content in the AP<sup>®</sup> *Microeconomics* coursebook from AMSCO<sup>®</sup> can be enriched with features and expanded coverage in the OpenStax *Microeconomics* text.

### Questions for Each Level of Learning

- **Self-Checks** are analytical self-assessment questions that appear at the end of each module. They push the student to think beyond what is said in the text. Self-Check questions are designed for formative (rather than summative) assessment. The questions and answers are explained so that students feel like they are being walked through the problem.
- **Review Questions** are simple recall questions from the chapter and are in open-response format (not multiple-choice or true/false). The answers can be looked up in the text.
- **Critical Thinking Questions** are higher-level, conceptual questions that ask students to demonstrate their understanding by applying what they have learned in different contexts.

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### Features That Support In-Depth Learning

**BRING IT HOME**

**Choices ... to What Degree?**

In 2015, the median income for workers who hold master's degrees varies from males to females. The average of the two is \$2,951 weekly. Multiply this average by 52 weeks, and you get an average salary of \$153,452. Compare that to the median weekly earnings for a full-time worker over 25 with no higher than a bachelor's degree: \$1,224 weekly and \$63,648 a year. What about those with no higher than a high school diploma in 2015? They earn just \$664 weekly and \$34,528 over 12 months. In other words, says the Bureau of Labor Statistics (BLS), earning a bachelor's degree boosted salaries 54% over what you would have earned if you had stopped your education after high school. A master's degree yields a salary almost double that of a high school diploma.

Given these statistics, we might expect many people to choose to go to college and at least earn a bachelor's degree. Assuming that people want to improve their material well-being, it seems like they would make those choices that provide them with the greatest opportunity to consume goods and services. As it turns out, the analysis is not nearly as simple as this. In fact, in 2014, the BLS reported that while almost 88% of the population in the United States had a high school diploma, only 15.5% had a bachelor's degree, and only 2.4% had a master's degree.

**WORK IT OUT**

**Understanding Budget Constraints**

Budget constraints are easy to understand if you apply a little math. The appendix [The Use of Mathematics in Principles of Economics](#) explains all the math you are likely to need in this book. Therefore, if math is not your strength, you might want to take a look at the appendix.

Step 1: The equation for any budget constraint is:

$$\text{Budget} = P_1 \times Q_1 + P_2 \times Q_2$$

where  $P$  and  $Q$  are the price and quantity of items purchased (which we assume here to be two items) and Budget is the amount of income one has to spend.

Step 2: Apply the budget constraint equation to the scenario. In Alphonso's case, this works out to be:

$$\text{Budget} = P_1 \times Q_1 + P_2 \times Q_2$$
$$\$10 = \$2 \times Q_{\text{burger}} + \$0.50 \times Q_{\text{bus ticket}}$$
$$\$10 = \$2 \times Q_{\text{burger}} + \$0.50 \times Q_{\text{bus ticket}}$$

Step 3: Using a little algebra, we can turn this into the familiar equation of a line:

$$y = b + mx$$

For Alphonso, this is:

$$\$10 = \$2 \times Q_{\text{burger}} + \$0.50 \times Q_{\text{bus ticket}}$$
$$2 \times 10 = 2 \times 2 \times Q_{\text{burger}} + 2 \times 0.5 \times Q_{\text{bus ticket}}$$
$$20 = 4 \times Q_{\text{burger}} + 1 \times Q_{\text{bus ticket}}$$

Step 4: Simplify the equation. Begin by multiplying both sides of the equation by 2:

**CLEAR IT UP**

**What is the opportunity cost associated with increased airport security measures?**

After the terrorist plane hijackings on September 11, 2001, many steps were proposed to improve air travel safety. For example, the federal government could provide armed "sky marshals" who would travel inconspicuously with the rest of the passengers. The cost of having a sky marshal on every flight would be roughly \$3 billion per year. Retrofitting all U.S. planes with reinforced cockpit doors to make it harder for terrorists to take over the plane would have a price tag of \$450 million. Buying more sophisticated security equipment for airports, like three-dimensional baggage scanners and cameras linked to face recognition software, could cost another \$2 billion.

However, the single biggest cost of greater airline security does not involve spending money. It is the opportunity cost of additional waiting time at the airport. According to the United States Department of Transportation (DOT), there were 895.5 million systemwide (domestic and international) scheduled service passengers in 2015. Since the 9/11 hijackings, security screening has become more intensive, and consequently, the procedure takes longer than in the past. Say that, on average, each air passenger spends an extra 30 minutes in the airport per trip. Economists commonly place a value on time to convert an opportunity cost in time into a monetary figure. Because many air travelers are relatively high-paid business people, conservative estimates set the average price of time for air travelers at \$20 per hour. By these back-of-the-envelope calculations, the opportunity cost of delays in airports could be as much as 800 million  $\times$  0.5 hours  $\times$  \$20/hour, or \$8 billion per year. Clearly, the opportunity costs of waiting time can be just as important as costs that involve direct spending.

- **Bring It Home:** This feature presents a brief case study, specific to each chapter, which connects the chapter's main topic to the real world. It is broken into two parts: the first at the beginning of the chapter (in the Intro module) and the second at chapter's end, when students have learned what's necessary to understand the case and "bring home" the chapter's core concepts.
- **Link It Up:** This feature offers a very brief introduction to a website that is pertinent to students' understanding and enjoyment of the topic at hand.
- **Work It Out:** This feature asks students to work through a generally analytical or computational problem and guides the students step-by-step to find out how its solution is derived.
- **Clear It Up:** This feature addresses common student misconceptions about the content. Clear It Ups are usually deeper explanations of something in the main body of the text.

### Additional Resources

- Current examples and recent data from **FRED** (*Federal Reserve Economic Data*).
- Extensive list of references.
- Useful appendices, such as *The Use of Mathematics in Principles of Economics*.

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