

Business Math: Lending & Credit

S1306

FIRST EDITION

Written by Catherine Izor

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Credit Union National Association, Inc.

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Preface

About These Courses

The STAR courses are not intended to provide legal advice, and we do not guarantee the information is appropriate for all state-chartered credit unions. If you have any legal or policy questions, contact your credit union president or your credit union league.

How to Use This Course

If you are sight-impaired and choose to have this course read to you, we suggest that a spouse, partner, friend, or volunteer from your credit union or credit union league assist you. You can also check with your local library regarding reader services available in your community.

If you are participating in a seminar, your instructor will get you started.

If you are completing this course through correspondence study, please follow this procedure:

1. Read the chapter opening objectives to get an idea of what's ahead.
2. Read the text. Complete the activities as you read each chapter. (Answers for many of the activities are included in the appendices.)
3. When you have read the text and completed the activities, take the competency test.

Competency Test Instructions

Each course in the STAR program has a competency test of 40 multiple choice questions. To successfully complete the course, you must correctly answer at least 32 questions. You can refer to the text as you take the test, but the test must be completed individually.

If you are participating in a seminar, your instructor will provide directions. If you are completing this course through correspondence study, please follow this procedure:

1. Locate the test questions in the last appendix of the text.
2. Find a quiet place where you can work undisturbed and at your own pace.
3. Record your answers on the answer sheet that was mailed to you along with the text. Follow the instructions on this sheet for marking answers.
4. Complete the identification section on the answer sheet and make sure you have marked an answer for each question.
5. Mail the scannable answer sheets to CUNA's National Processing Center in the envelope provided. Mail competency test answer sheets to your league education department.

Core Courses Required for All Tracks

choose one of these modules {		S1304 Introduction to Credit Unions A1004 Introduction to Credit Unions and S20 Member Relations S30 Security	
Tracks		Track Courses	
Member Services		S100 Money and Negotiable Instruments S110 Member Services S120 Cross-Selling	
Consumer Lending		S200 The Lending Process S210 Lending Products and Regulations S220 Collections	
Credit Union Accounting		S300 Basic Accounting S310 Accounting for Credit Unions S320 Credit Union Financial Analysis	
Advanced Lending	choose one of these modules {	S400 Bankruptcy and Court Proceedings A1006 Bankruptcy and S410 Mortgage Lending S420 Loan Marketing	
Credit Union Sales	choose one of these modules {	S1305 Credit Union Sales A1002 Credit Union Sales and S500 Improving and Maintaining Quality Service S520 Interpersonal Skills: Understanding Your Impact on Members	
Technology	choose one of these modules {	S1120 Using Technology to Improve Member Service A1009 Critical Role of Technology and S600 Credit Union Technology S620 Serving Members with Technology	
Loan Officer		S700 Loan Interviewing S710 Loan Underwriting S720 Loan Servicing	
Savings Plus		S800 Opening New Accounts S810 Individual Retirement Accounts S820 Investment Choices for Members	
Credit Union Security		S900 Preventing Fraud S910 Security Issues	
Professional Development		S1000 Develop a Career Plan S1010 Write Effectively S1020 Make Work Manageable	
Member Services II		S1100 Working Effectively with Difficult Members and Staff S1110 Helping Members Understand and Solve Problems S1120 Using Technology to Improve Member Service	
Financial Management		S1200 Financial Management I: Statements and Budgeting S1210 Financial Management II: Sources/Uses of Money	
Presidential Series		S1300 Member Services: Exceeding Expectations S1301 Financial Counseling S1302 Transitioning from Staff to Management S1303 Communication and Telephone Skills S1304 Introduction to Credit Unions S1305 Credit Union Sales S1306 Business Math: Lending and Credit S1307 Business Math: Share and Deposit Accounts S1308 Professional Member Services S1309 Security Procedure Protocol S1310 Successful Collections S1320 Robbery Prevention and Preparation	

Introduction

Today, people use calculators or computer programs to process many of the calculations they encounter. Their biggest mental math challenges may be estimating a restaurant tip or the discount on a sale item.

Unlike most people, however, you work for a credit union, and numbers are the basis of the business. Good math skills are an important core competency for all credit union employees.

The purpose of this module is to familiarize you with the types of calculations that are part of the loan and credit functions of a credit union. While you may not be required to perform all of these math calculations in your current job, understanding the math will make it easier for you to help members.

Although this module teaches you to calculate certain math problems, the goals of the module are much greater. The many calculations that computers and people perform at credit unions have a purpose. This module helps you understand that purpose so you know when to use the appropriate calculation.

When you understand various lending practices, your credit union's competitive advantages become obvious. This helps you do a better job helping members achieve their financial goals.

In chapter 1 we cover the reasons to learn loan math skills, how closed-end and open-end credit differ, how the Truth-in-Lending Act affects loan math, basic math techniques, and tips for explaining calculations to members.

We review interest and payment calculations for closed-end loans in chapter 2. We cover simple interest, amortization, APR calculations, and how to handle nonregular payments.

Mortgage math is the subject of chapter 3. You learn about mortgage loan interest calculations, biweekly payments, how shorter loan terms affect interest and payments, key features of adjustable-rate mortgage loans, and APR disclosures.

In chapter 4, you learn about calculating interest and payments on open-end credit such as credit cards and lines of credit. We review how to calculate the average daily balance, daily periodic rates, monthly periodic rates, and interest for a billing period. We also cover how grace periods affect interest and how to determine the minimum payment. Finally, we discuss APR disclosures.

In chapter 5 we explore ratios and how they are used in lending decisions. Types of ratios covered include debt-to-income, monthly housing expense, total-obligations-to-income, and loan-to-value. In addition to learning about calculating these ratios, you gain insight on how these calculations help credit unions make loan decisions.

In chapter 6 we show many ways you can help members compare rates and loans. Members may find what appears to be a great loan or credit offer from a competitor. But is it really a good deal for the member? We show ways to examine these "good deals" and expose the true costs and disadvantages to the

member. This information helps you present the credit union's loans as a better alternative.

Resources at the end of the text help you find online calculators. An appendix also gives you a quick reference to key lending and credit equations covered in this module.

Special notes about the math:

- You need a calculator to complete many of the practice activities and the test.
- Variations in calculators and rounding practices may produce variations in the numbers for some of the more complicated examples.

- The test for this module does not include calculations beyond eight digits.
- You may want to keep a scratch pad handy for some of your calculations.

In this module we focus on math skills that apply to loans and credit. However, you may decide that you'd like additional refresher material on general math skills. If so, consider enrolling in a local community college course on business math or math for adults. Or, your local library or bookstore may have resources that can help.





Icons and Play Pages


Throughout this module you will see a variety of reference icons. Each icon represents a corresponding activity or exercise that will enhance each chapter. The purpose of the activity or exercise is to allow the participant to apply a corresponding concept or theory presented in the chapter.


Each icon may also be referenced as a “play” activity. That is our goal—to encourage you to play, and at the same time learn about the major concepts covered here.


Resources


- 


Activity: An interactive exercise to further your knowledge.
- 

Calculator: A flash calculator to aid in your calculations.
- 

Community Chat: A chat room where you can discuss content with others taking the course.
- 

Field Trip: An additional resource located outside the online course (for example, an instructional video).
- 

Knowledge Check: A practice activity to test what you have learned.
- 

Resource: Additional resources and information on the topic.
- 

Timeline: An interactive timeline to learn more about the history of this topic.

In addition, the “Play Page” is a place to experience some of the interactive, online learning activities available in CUNA’s CU Advance courses.

To access the Play Page for this module, go to <http://training.cuna.org/playpage/index.html> or go to www.cuna.org and type “Play Page” into the Search Box. Select the title of this module, and then the chapter you want to review.

Enjoy!