Notice about the 3rd Edition

3rd Edition: The first exam offering on this content was April 15, 2019.

Risk Management and Insurance Operations is called Online Course 1 by the CAS and CA1, 3rd Edition, by The Institutes. Prometric lists this course as CAS1 on its Web site under The Institutes.

Online Course 1/CA1 prepares CAS candidates for a two-hour, seventy-five-point multiple-choice examination. The online course and exam were developed collaboratively with The Institutes. The online course is available through the Casualty Actuarial Society Online Courses Web Page on The Institutes' Web Site. Similarly, the exam is administered by The Institutes at Prometric test centers during four, two-month testing windows annually.

The CAS will grant a waiver of CAS Online Course 1 to those who have the Chartered Property Casualty Underwriter (CPCU) designation.

The study material for CAS Course 1/CA1 is contained in the online course access. The fee for access to the online course includes one attempt at passing the exam. Candidates are required to purchase the online course to obtain access to the exam. Exam retakes may be purchased separately if needed.

Purchasing the course requires that candidates declare the testing window in which they are planning to take the exam. To register for the exam, a candidate must:

- Call The Institutes at (800) 644-2101 or (610) 644-2100, extension 6000, to register for the exam itself. This will place the candidate on an eligibility list for Prometric.

- Then make an appointment with Prometric for a specific date and time during the testing window. Early registration for the exam is strongly encouraged as seats fill quickly. There is a $115 fee for changing testing windows.

- Schedule your appointment when you know you will be ready to sit for the exam. Effective January 1, 2012, Prometric will charge a $50 fee to candidates who reschedule their appointments between 3 to 12 business days of a test date. Changes to the appointment date/time are not permitted within 3 business days of the appointment.

Questions or concerns regarding CAS Online Course 1/CA1 should be directed to The Institutes' Customer Success group at (800) 644-2101 or (610) 644-2100, extension 6000, or CustomerSuccess@TheInstitutes.org.

Assignment 1: Introduction to Risk Management

MODULE TITLE	LEARNING OBJECTIVES
Understanding and Quantifying Risk	Describe each of the following in the context of risk: • Uncertainty • Possibility • Possibility compared with probability
Classifications of Risk	Explain how the following classifications of risk apply and how they help in risk management: • Pure and speculative risk • Subjective and objective risk • Diversifiable and nondiversifiable risk • Quadrants of risk (hazard, operational, financial, and strategic)
Financial Consequences of Risk	Describe the three financial consequences of risk.
Basic Purpose and Scope of Risk Management	Describe the basic purpose and scope of risk management in terms of the following: • How risk management is practiced by individuals and organizations • The basic distinction between traditional risk management and enterprise-wide risk management
Loss Exposures	Describe the following elements of property, liability, personnel, and net income loss exposures: • Assets exposed to loss • Causes of loss, including associated hazards • Financial consequences of loss
Risk Management Benefits	Describe the benefits of risk management and how it reduces the financial consequences of risk for individuals, organizations, and society.
Risk Management Program Goals	Summarize pre-loss and post-loss risk management program goals and the conflicts that can arise as they are implemented.
The Risk Management Process	Describe each of the steps in the risk management process

Assignment 2: Risk Control

MODULE TITLE	LEARNING OBJECTIVES
Risk Control Techniques	Describe the six categories of risk control techniques in terms of the following: • Whether each reduces loss frequency, reduces loss severity, or makes losses more predictable • How each can be used to address a particular loss exposure • How they differ from one another
Risk Control Goals	Explain how an organization can use risk control techniques and measures to achieve the following risk control goals: • Implement effective and efficient risk control measures • Comply with legal requirements • Promote life safety • Ensure business continuity
Selection of Risk Control Techniques	Explain how risk control techniques can be applied to property, liability, personnel, and net income loss exposures.
Business Continuity Management	Describe business continuity management in terms of its scope, the process used to implement it, and the contents of a typical business continuity plan.

Assignment 3: Risk Financing

MODULE TITLE	LEARNING OBJECTIVES
Risk Financing Goals	Explain how individuals or organizations can achieve their overall and risk management goals by fulfilling the following risk financing goals: • Pay for losses • Manage the cost of risk • Manage cash flow variability • Maintain an appropriate level of liquidity • Comply with legal requirements
Retention and Transfer	Describe the following aspects of retention and transfer: • Retention funding measures • Limitations on risk transfer measures • The advantages of both retention and transfer
Selecting Appropriate Risk Financing Measures	Explain how the following can affect the selection of the appropriate risk financing measure: • Ability of a risk financing measure to meet risk financing goals • Loss exposure characteristics • Characteristics specific to an individual or organization
Risk Financing Measures	Explain how an organization meets its risk financing goals by using the following risk financing measures: • Guaranteed cost insurance • Self-insurance • Large deductible plans • Captives • Finite risk plans • Pools • Retrospective rating plans • Hold-harmless agreements • Capital market solutions

Assignment 4: Enterprise-Wide Risk Management

MODULE TITLE	LEARNING OBJECTIVES
Traditional Risk Management Versus ERM	Contrast traditional risk management and ERM.
Improving Strategic Decision Making With ERM	Explain how an organization can improve its strategic decision-making by incorporating enterprise-wide risk management (ERM).
ERM in Approaching Business Uncertainties	Explain why ERM is an effective approach to use to face business uncertainties.
Major Risk Management Frameworks and Standards	Summarize the main risk management frameworks and standards.

Assignment 5: Insurance as a Risk Management Technique

MODULE TITLE	LEARNING OBJECTIVES
How Insurance Reduces Risk	Explain how insurance reduces risk through pooling.
Benefits of Insurance	Explain how insurance benefits individuals, organizations, and society.
Characteristics of an Ideally Insurable Loss Exposure	Explain why each of the six characteristics of an ideally insurable loss exposure is important to the insurance mechanism.
Insurability of Commercial Loss Exposures	Explain how the six characteristics of an ideally insurable loss exposure apply to commercial loss exposures.
Insurability of Personal Loss Exposures	Explain how the six characteristics of an ideally insurable loss exposure apply to personal loss exposures.
Government Insurance Programs	Explain how state and federal governments are involved in the insurance market and the rationale for, and level of, their involvement.

Assignment 6: Overview of Insurance Operations

MODULE TITLE	LEARNING OBJECTIVES
Insurer Goals and the Constraints on Achieving Them	Categorize the internal and external constraints that impede insurers from achieving their major goals.
Classifications of Insurers	Explain how insurers have organized to provide property-casualty insurance.
Measuring Insurer Performance	Describe the measurements used to evaluate how successful an insurer is at meeting its established goals.
Functional View of Insurance	Describe the core and supporting functions performed by insurers.
The Digitization of Insurance	Explain how expanding data sources, the blockchain, and advanced analytics can transform Insurance operations.

Assignment 7: Insurance Marketing and Distribution

MODULE TITLE	LEARNING OBJECTIVES
Property-Casualty Insurance Marketplace	Describe the following attributes of the competitive property-casualty insurance marketplace: distinguishing characteristics of insurance customers, insurer marketing differentiations, and unique factors in the insurance marketplace.
Unique Factors In the Property-Casualty Insurer Marketplace	Explain how unique economic factors shape the insurance marketplace.
Insurer Marketing Activities	Explain how typical insurer marketing activities are performed and why they are performed.
Insurance Distributions Systems and Channels	Distinguish among the main types of insurance distribution systems and channels.
Functions of Insurance Producers	Describe the functions performed by insurance producers.
Selecting Insurance Marketing Distribution Systems and Channels	Describe the key factors an insurer should evaluate during the distribution-system and distribution-channel selection process.

Assignment 8: The Underwriting Function

MODULE TITLE	LEARNING OBJECTIVES
Purpose of Underwriting	Describe the purpose of underwriting.
Underwriting Activities	Describe the underwriting activities typically performed by line and staff underwriters.
Underwriting Authority	Describe the importance of compliance with underwriting authority in individual account selection.
Constraints in Establishing Underwriting Policy	Describe the constraining factors considered in the establishment of underwriting policy.
Implementing Underwriting Policy	Describe the purposes that underwriting guidelines and underwriting audits serve.
Steps in the Underwriting Process	Summarize the steps in the underwriting process and the purpose of each.
Measuring Underwriting Results	Explain how an insurer's underwriting results are measured and how financial measures can be distorted.

Assignment 9: Underwriting Property and Liability Insurance

MODULE TITLE	LEARNING OBJECTIVES
Underwriting Property Insurance Using the COPE Model	Describe in detail each of the COPE factors used to evaluate property loss exposures.
Property Policy Provision Underwriting Considerations	Explain how insurable interest, policy provisions for valuing losses, and insurance to value affect a loss payment amount under property insurance.
Measures of Potential Loss Severity	Explain how underwriters use policy amount, amount subject, normal loss expectancy (NLE), probable maximum loss (PML), and maximum foreseeable loss (MFL) to measure potential loss severity.
Underwriting Business Income and Extra Expense Coverage	Describe the underwriting considerations for business income and extra expense coverage.
Underwriting Commercial Crime Insurance	Describe the underwriting considerations and risk control techniques associated with employee dishonesty and crimes committed by others.

MODULE TITLE	LEARNING OBJECTIVES
Underwriting Commercial General Liability Insurance	Describe the loss exposures and the underwriting considerations for commercial general liability insurance.
Underwriting Personal and Commercial Auto Insurance	Describe the underwriting considerations for personal and commercial auto insurance.

Assignment 10: Risk Control and Premium Auditing

MODULE TITLE	LEARNING OBJECTIVES
Insurer Risk Control Goals	Describe the goals of insurer risk control activities.
Risk Control Services Provided by Insurers	Describe the risk control services provided by insurers.
Cooperation Between Risk Control and Other Insurer Functions	Explain how risk control cooperates with other insurer functions.
Reasons for Premium Auditing	Explain why premium audits are conducted.
Premium Auditing Process	Describe the premium auditing process.
Importance of Accurate Premium Audits	Explain why premium audits must be accurate.
Premium Auditing Contributions	Explain how premium auditing contributes to other insurer functions.

Assignment 11: The Claim Function

MODULE TITLE	LEARNING OBJECTIVES
Overview of the Claim Function	Explain how an Insurer's claim function achieves its primary goals, provides valuable information to other departments, and interacts effectively with outside contacts.
Claim Department Structure, Personnel, and Performance	Explain how Claims Department results can be optimized by: • Department structure • The types and functions of claims personnel • Claim performance measures

MODULE TITLE	LEARNING OBJECTIVES
Measures Used to Ensure Regulatory Compliance	Explain how the following measures are used to ensure regulatory compliance: • Claim guidelines, policies, and procedures • Controls • Supervisor and manager reviews • Claim audits
The Claims Handling Process	Describe the activities in the claims handling process.
Framework for Coverage Analysis	Describe the framework for coverage analysis and the information obtained by following it.
Applying the Claims Handling Process and the Framework for Coverage Analysis	Given a claim resolution scenario, demonstrate how a claim representative handles the claim and analyzes coverage.

Assignment 12: Adjusting Property and Liability Claims

MODULE TITLE	LEARNING OBJECTIVES
Property Claim Handling Process	Explain how and why the activities in the framework for handling property claims are accomplished.
Handling Specific Types of Property Claims	Describe the challenges of handling the following types of property claims: • Residential dwelling claims • Residential personal property claims • Commercial structure claims • Business income claims • Merchandise claims • Transportation and bailment claims • Catastrophe claims
Liability Claim Handling Process	Explain how and why the activities in the framework for handling a liability claim are accomplished.

MODULE TITLE	LEARNING OBJECTIVES
Handling Specific Types of Liability Claims	Describe the challenges of handling each of the following types of claims: • Auto bodily injury liability claims • Auto property damage claims • Premises liability claims • Operations liability claims • Products liability claims • Workers compensation claims • Professional liability claims

Assignment 13: Reinsurance Principles and Concepts

MODULE TITLE	LEARNING OBJECTIVES
Reinsurance and Its Functions	Describe principal functions of reinsurance.
Reinsurance Sources	Describe the three sources of reinsurance.
Reinsurance Transactions	Contrast treaty reinsurance and facultative reinsurance.
Types of Pro Rata Reinsurance	Given a case, determine the amount of loss that would be payable under a pro rata reinsurance contract.
Types of Excess of Loss Reinsurance	Given a case, determine the amount of loss that would be payable under an excess of loss reinsurance contract.
Alternatives to Traditional Reinsurance	Explain how finite risk reinsurance and capital market-based methods are used as alternatives to traditional reinsurance.

Assignment 14: Insurer Strategic Management

MODULE TITLE	LEARNING OBJECTIVES
Strategic Management Process	Summarize the stages in the strategic management process.
The Five Forces and SWOT Methods of Analyzing the Environment	Explain how the Five Forces and SWOT methods can be used to analyze the environment in which an insurer operates.
Determining Strategy at Different Organizational Levels	Explain how strategies are developed at the corporate, business, functional, and operational levels.
Strategic Management Case Study	Given information about an insurer's business strategies, conduct a SWOT analysis to evaluate its strategy.

Assignment 15: The Underwriting Cycle

MODULE TITLE	LEARNING OBJECTIVES
The Insurance Underwriting Cycle	Describe the phases of the insurance underwriting cycle and the strategies normally used by insurers and producers during each phase.
Financial Factors Influencing the Underwriting Cycle	Explain how the following financial factors influence underwriting cycles • Investment income • Capacity • Return on equity • Cash flow
Effects of Supply and Demand on the Underwriting Cycle	Explain how the theory of demand and supply applies to insurance and the underwriting cycle.

Assignment 16: Actuarial Data Management

MODULE TITLE	LEARNING OBJECTIVES
Data Quality	Summarize: • The concepts of data quality and information quality • The impact of data quality on the actuarial work product
Principles of Data Quality	Given a principle of data quality, provide an example that illustrates the principle.
Data Quality—ASOP No. 23	Given a concept from the Actuarial Standard of Practice No. 23, provide an example of its application or use.
Life Cycle for Insurance Data	For each step in the life cycle for insurance data, describe the purpose, the responsible parties, and errors typically encountered.
Metadata	Summarize metadata including: • How metadata are defined • The actuary's role in creating and sharing metadata • How metadata are shared across an organization • The data collected under different statistical plans
The Need for Aggregate Insurance Statistical Data	Explain the regulatory and business needs for statistical data.
Types of Statistical Plans	Summarize the relationship of Statistical Plans to insurance rating elements and the two basic types of Statistical Plans: • Summary-based Statistical Plans • Transaction-based Statistical Plans
Insurance Data Elements: Date Fields and Amount Fields in Statistical Plans	Describe the functions of the date field and amount field data elements in a statistical plan.
Insurance Data Elements: Classification or Rating Variable Fields and Exposure Data Elements	Describe the following statistical plan data elements by line of business: • Classification and Rating Elements • Exposure

MODULE TITLE	LEARNING OBJECTIVES
Techniques and Applications to Improve Information Quality	Summarize the following data quality analysis concepts: • Exploratory data analysis • Data cubes • Identifying missing data • Descriptive statistics • Box and whisker plots
Auditing Data and the Actuary's Responsibility in Assessing Data Reasonability	Explain the following: • The purpose and steps of data auditing • An actuary's responsibility in assessing data reasonability

Study Materials for CAS Online Course 1

The online course itself contains learning objectives and all the educational material to meet these objectives and successfully complete the exam. The course fee includes one attempt at the exam.

The following printed materials are supplemental and may also be purchased from The Institutes, but are not required:

- **Textbook** contains material that is identical to the online course—only in a hardcopy format.
- **Review Notes** is a condensed version of the textbook.
- **Course Guide** contains sample questions and answers.
- **Flashcards** contain key words and phrases.

The materials described above may be purchased individually or in various package combinations.

Questions about potentially defective questions or material should be directed to The Institutes' Customer Success group at (800) 644-2101 or (610) 644-2100, extension 6000, or CustomerSuccess@TheInstitutes.org.

Publisher and Distributor

CAS Online Course 1/CA1 is available through The Institutes.

> The Institutes, 720 Providence Road, Suite 100, Malvern, PA 19355-3433; telephone: (800) 644-2101 or (610) 644-2100 extension 6000; e-mail: CustomerSuccess@TheInstitutes.org; website for CAS Online Courses: www.aicpcu.org/cas.htm.

Exam Results

Candidates taking this computer-based test will receive unofficial pass/fail results at the conclusion of their exam. The unofficial pass/fail result will be displayed on the computer screen at the conclusion of the exam. In most test centers, a printed copy of the candidate's unofficial pass/fail result will be available upon completion of the computer-based test from the proctor in the administrative area outside the testing room. The candidate, however, should carefully read the result that is displayed on the computer screen at the conclusion of the exam.

When the official grades have been processed, candidates will receive an e-mail from The Institutes stating that their grades are available. Candidates may then log into their account on The Institutes Website (www.TheInstitutes.org) to access their grades. The grade report for each candidate will show the candidate's overall score on the exam in ten-point increments (e.g., 60 to 69%, 70 to 79%, and so on). It will similarly show the candidate's performance by assignment using those same ten-point increments.