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SYLLABUS OF BASIC EDUCATION
2022
Regulation and Financial Reporting
Exam 6-International

The syllabus for this four-hour exam is defined in the form of learning objectives, knowledge statements, and readings.

LEARNING OBJECTIVES set forth, usually in broad terms, what the candidate should be able to do in actual practice. Included in these learning objectives are certain methodologies that may not be possible to perform on an examination, such as complex simulations, but that the candidate would still be expected to explain conceptually in the context of an examination.

KNOWLEDGE STATEMENTS identify some of the key terms, concepts, and methods that are associated with each learning objective. These knowledge statements are not intended to represent an exhaustive list of topics that may be tested, but they are illustrative of the scope of each learning objective.

READINGS support the learning objectives. It is intended that the readings, in conjunction with the material on earlier examinations, provide sufficient resources to allow the candidate to perform the learning objectives. Some readings are cited for more than one learning objective. The CAS Syllabus & Examination Committee emphasizes that candidates are expected to use the readings cited in this *Syllabus* as their primary study materials.

Thus, the learning objectives, knowledge statements, and readings complement each other. The learning objectives define the behaviors, the knowledge statements illustrate more fully the intended scope of the learning objectives, and the readings provide the source material to achieve the learning objectives. Learning objectives should not be seen as independent units, but as building blocks for the understanding and integration of important competencies that the candidate will be able to demonstrate.

Note that the range of weights shown should be viewed as a guideline only. There is no intent that they be strictly adhered to on any given examination—the actual weight may fall outside the published range on any particular examination.

The overall section weights should be viewed as having more significance than the weights for the individual learning objectives. Over a number of years of examinations, absent changes, it is likely that the average of the weights for each individual overall section will be in the vicinity of the guideline weight. For the weights of individual learning objectives, such convergence is less likely. On a given examination, in which it is very possible that not every individual learning objective will be tested, there will be more divergence of guideline weights and actual weights. Questions on a given learning objective may be drawn from any of the listed readings, or a combination of the readings. There may be no questions from one or more readings on a particular exam.

After each set of learning objectives, the readings are listed in abbreviated form. Complete text references are provided at the end of this exam syllabus. Candidates may be interested in further exploration of these topics on their own. A list of readings that provide broader perspective on topics covered by this examination is provided following the required text references. Note that these materials will **not** be tested on the exam.

Items marked with a bold **DSK** constitute the 2022 Exam 6-International Digital Study Kit that may be obtained from the CAS Online Store at no charge. Items marked with a bold **OP** (Online Publication) are available at no charge and may be downloaded from the CAS website.

Please check the “*Syllabus Updates*” section of the CAS website for any changes to the *Syllabus*.

Section A of this examination covers insurance regulation with regards to property-casualty coverages in the international arena. Section B covers solvency and solvency assessment in general. Section C covers International Financial Reporting



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Standards (IFRS), insurance accounting, and taxation as well as risk adjustments. Section D presents the general concepts of reinsurance to the candidate. Section E covers the professional responsibilities of the actuary in financial reporting.

The inherent nature of the material addressed in this multi-nation exam makes it subject to continual development and change. It is expected that the candidates will respond to exam questions based on the current syllabus presented below. Recognizing the changing nature of law, regulation, and financial reporting requirements, however, the CAS Syllabus & Examination Committee will strive to acknowledge candidates who also respond with the current state in their solutions to examination questions.

In addition, this exam assumes that the candidate has completed Online Course 2. Online Course 2 contains fundamental background material for Section A (Regulation of Insurance), Section C (Financial Reporting), and Section E (Reinsurance Accounting Principles).



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A. Regulation of Insurance

Range of weight for Section A: 25-30 percent

Candidates should understand the role of the insurance business as a supplier of a vital service. Because of the essential and highly technical nature of insurance, a system of regulatory controls has been established requiring insurers to demonstrate that they are providing fair and reliable services in accordance with the statutes and regulations of each jurisdiction. Various approaches to regulation are presented along with understanding the role of the marketplace in regulating the insurance market.

Assumed Prior Knowledge

- CAS Online Course 2 and, in particular, Assignment 16: Insurance Regulation
- International Association of Insurance Supervisors (IAIS), Core Curriculum for Insurance Supervisors, Module 1.1.1, [Conditions for effective insurance supervision](#)

LEARNING OBJECTIVES	KNOWLEDGE STATEMENTS
1. Understand marketplace regulation.	<ul style="list-style-type: none"> a. The role of the Insurance Core Principles (Principles for insurance regulation) b. The IAIS regulatory framework c. The economic and legal considerations of regulation d. The regulation in micro-insurance markets e. Insurance regulation in major markets (such as EU, United States, Asia)
2. Understand marketplace function.	<ul style="list-style-type: none"> a. Rating agencies b. Market discipline in insurance c. Discrimination in insurance d. Conditions of effective insurance supervision e. Partnership between private and government in disaster, catastrophe, and health insurance
3. Understand marketplace conduct and issues.	<ul style="list-style-type: none"> a. Consumer protection b. Intermediaries c. Business conduct d. Information transparency and disclosure e. Distribution risk
4. Mainstream government and industry programs	<ul style="list-style-type: none"> a. Islamic insurance instrument (Takaful operation) b. China's insurance regulatory system c. North American government / private insurance programs
Range of weight for Learning Objectives A.1 through A.4 collectively: 25-30 percent	



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READINGS

- Avraham
- Biener
- Brown & Klein
- Chen
- Eling 1
- Eling 2
- Feldblum
- Frees
- Government Insurers Study Note
- IAA Risk Book, Chapter 9
- IAIS CC: Modules 6.1.1 and 7.1.1
- Klein
- Kousky
- McAneney
- OCED
- Swartz
- Thanasegaran



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B. Solvency

Range of weight for Section B: 15-20 percent

This section focuses on concept of solvency and solvency assessment in general. Candidates are expected to understand the concept and assessment of solvency, including ORSA and various international approaches to assessing solvency.

LEARNING OBJECTIVES	KNOWLEDGE STATEMENTS
1. Understand solvency components.	a. Definition of solvency b. Purpose of solvency c. Capital adequacy vs. solvency
2. Understand capital adequacy components of solvency regulation.	a. Choices of accounting bases b. Risk measures and capital requirements c. Time horizon and ladders of intervention d. Solvency supervision interaction based on total balance sheet approach e. Going concern vs. runoff
3. Understand ORSA and ERM in general.	a. Definition of ORSA and ERM b. Value of ORSA and ERM for solvency assessment and regulation c. Main elements addressed in the ORSA system
4. Understand mainstream global solvency assessment	a. Systemically important insurers and IAIG b. Solvency II framework c. Risk-based capital (RBC) approach d. Key features of different solvency regimes
Range of weight for Learning Objectives B.1 through B.4 collectively: 15-20 percent	
READINGS	
<ul style="list-style-type: none"> • Blanchard Study Note • Geneva • IAA ORSA • IAA Risk Book, Chapter 10 • IAA Solvency • IAIS CC: Modules 5.6.1 excluding Section 1.5, 2.2.2, 2.3.1, 3.4, all exercises, and the case studies • IAIS ICP1 • NAIC IAIG • New Zealand 	



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C. Financial Reporting

Range of weight for Section C: 35-45 percent

This section addresses financial reporting under International Financial Reporting Standard 17 (IFRS 17). Candidates will be expected to understand the key principles underlying IFRS 17 including the financial statement presentation.

Assumed Prior Knowledge

- CAS Online Course 2 and, in particular, Assignment 1: Introductory Insurance Accounting
- International Association of Insurance Supervisors (IAIS), Core Curriculum for Insurance Supervisors, Module 1.6.1, [Introduction to insurance accounting](#)

LEARNING OBJECTIVES	KNOWLEDGE STATEMENTS
1. Understand key principles and concepts of IFRS 17	<ul style="list-style-type: none"> a. Key IFRS 17 definitions b. GMM (or BBA) vs. PAA
2. Understand the key components of IFRS 17 reporting	<ul style="list-style-type: none"> a. Estimates of future cash flows b. Discount rate c. Risk adjustment d. Liability for Remaining Coverage (LRC) and Liability for Incurred Claims (LIC) e. Contractual Service Margin f. Reinsurance held
3. Describe the financial statement elements of IFRS 17	<ul style="list-style-type: none"> a. Statement of profit and loss b. Statement of financial position c. Disclosure under IFRS 17
Range of weight for Learning Objectives C.1 through C.3 collectively: 35-45 percent	
READINGS	
<ul style="list-style-type: none"> • EY Illustrative Financials, Introduction, Note 6 and Note 11 • EY PAA Eligibility • IAA ISAP 4 • IAA Note 100, Introduction, Chapter 1-7, and Chapter 15 • IFRS Study Note 	



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D. Reinsurance Accounting Principles

Range of weight for Section D: 5-10 percent

This section presents the general concepts of reinsurance to the candidate. The candidate should become familiar with reinsurance accounting terminology and practice.

Assumed Prior Knowledge

- CAS Online Course 2 and, in particular, Assignment 1, Module on Reinsurance Accounting Basics

LEARNING OBJECTIVES	KNOWLEDGE STATEMENTS
1. Reinsurance and Risk Transfer	a. Understand the impact of reinsurance and risk transfer b. Understand the main cause of reinsurance failure and associated impact
2. Basics of Reinsurance Accounting	a. Understand how different types of ceded reinsurance impact financial statements b. Quantify the impact of reinsurance on financial statements (surplus, loss reserves, unearned premiums, leverage ratios, income statement)
3. Reinsurance Reporting under IFRS 17	a. Understand the IFRS 17 requirements for recognition and measurements of reinsurance contracts held
Range of weight for Learning Objectives D.1 through D.3 collectively: 5-10 percent	
READINGS	
<ul style="list-style-type: none">• Blanchard & Klann• EY Illustrative Financials• IAA Note 100, Chapter 9• IAIS CC: Module 5.5.1, Chapters 5-7• IFRS Study Note	



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E. Professional Responsibilities of the Actuary in Financial Reporting

Range of weight for Section E: 15-20 percent

This section focuses on the professional responsibilities of an actuary as defined by standards of practice, regulators, and insurance laws for financial reporting from an international viewpoint.

LEARNING OBJECTIVES	KNOWLEDGE STATEMENTS
<p>1. Explain the responsibilities of an actuary as defined by actuarial standards of practice, regulators, and insurance laws for financial reporting.</p> <p>Range of weight: 15-20 percent</p>	<p>a. Describe the oversight role of the actuarial function as part of the lines of defense of effective risk management of an insurance company.</p> <p>b. Describe the role of actuarial professional standards and their relationships with regulations.</p> <p>c. Describe the principles upon which a profession is founded and how these principles influence an actuary's behavior.</p> <p>d. Describe common actuarial standards of practice applicable to general actuarial work and to financial reporting.</p>
READINGS	
<ul style="list-style-type: none">• IAA ISAP 1, 4, 5, and 6• IAA Professionalism• IAA Risk Book, Chapters 2 and 3	



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Complete Text References for Exam 6-International

Text references are alphabetized by the citation column.

Citation	Abbreviation	Learning Objective	Source
Avraham, R., " Discrimination and Insurance ," The Routledge Handbook To Discrimination Lippert-Rasmussen Ed, University of Texas Law, Law and Econ Research Paper No. E574, 2017.	Avraham	A	OP
Biener, C.; Eling, M.; and Schmit, J. T., " Regulation in Microinsurance Markets: Principles, Practice, and Directions for Future Development ," School of Finance, University of St. Gallen, 2013.	Biener	A	OP
Blanchard, R.S., " Exam 6-International Study Note – Solvency ," CAS Study Note, May 2021.	Blanchard Study Note	B	OP
Blanchard, R.S. and Klann, J., " Basic Reinsurance Accounting – Selected Topics ," CAS Study Note, October 2012.	Blanchard & Klann	D	OP
Brown, E. F. and Klein, R. W., <i>Research Handbook on the Law and Economics of Insurance</i> , Edward Elgar Publishing, 2015, Chapter 8, pp. 241-289, "Insurance solvency regulation: A new world order?"	Brown & Klein	A	DSK
Caramagno, N.; Mamane, D.; and Neilson, L., " An Introduction to IFRS 17 for P&C Actuaries ," CAS Study Note, September 2021. Candidates are responsible for the Excel illustrations .	IFRS Study Note	C & D	OP
Chen, B., et al., " The Development and Regulation of China's Insurance Market: History and Perspectives ," Risk Management and Insurance Review, 2013.	Chen	A	OP
EY, " Determining eligibility of the premium allocation approach under IFRS 17 for Non-Life insurers ," 2021. NOTE: Please use the paper that has been archived on the CAS website for educational purposes.	EY PAA Eligibility	C	OP
EY, " Good General Insurance (International) Limited: Illustrative disclosures to meet requirements of IFRS 17 and IFRS 9 for groups of insurance contracts accounted for under the PAA in IFRS 17 ," 2020, Introduction, Note 6 (Insurance service expense), and Note 11 (Insurance and reinsurance contracts). NOTE: Please use the paper that has been archived on the CAS website for educational purposes.	EY Illustrative Financials	C & D	OP
Eling, M., " What Do We Know About Market Discipline in Insurance? ," Institute of Insurance Economics, University of St. Gallen, 2011.	Eling 1	A	OP



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Citation	Abbreviation	Learning Objective	Source
Eling, M.; Klein, R. W.; and Schmit, J.T., " Insurance Regulation in the United States and the European Union: A Comparison ," The Independent Institute, 2009.	Eling 2	A	OP
Feldblum, S., " Rating Agencies ," CAS Study Note, October 3, 2011, pp. 1-7, 14-15 (stop at Best's Capital Adequacy Ratio), and Appendix A.	Feldblum	A	OP
Frees, E. W. and Huang, F., " The Discriminating (Pricing) Actuary SSRN ," 2021.	Frees	A	OP
Germani, W., et al., " Government Insurers Study Note ," CAS Study Note, April 2017, pp. 1-5 excluding Crop Insurance.	Government Insurers Study Note	A	OP
IFRS Foundation, " Reinsurance contracts held: an example of proportional coverage ," pp. 1-4.	IFRS Example	D	OP
International Actuarial Association, IAA Professionalism Committee: <ul style="list-style-type: none"> • PG 1 - Principles of Professionalism • PG 2 - Principles in relation to the Governance of International Actuarial Work 	IAA Professionalism	E	OP
International Actuarial Association, Insurer Solvency Assessment Working Party, " A Global Framework for Insurer Solvency Assessment ," 2004. The following parts are required (excluding appendices and details of items referenced): <ul style="list-style-type: none"> • Chapter 2, paragraphs 2.3-2.10 only • Chapter 3, excluding Section 3.2.5 • Chapter 4 • Chapter 5, excluding Section 5.2.4; paragraphs 5.47-5.50; Section 5.4.2; and Section 5.4.3 • Chapter 6, excluding Sections 6.3-6.9 • Chapter 7, pp. 60-66 but excluding Section 7.3 	IAA Solvency	B	OP
International Actuarial Association, " International Actuarial Note 100: Application of IFRS 17 Insurance Contracts ," August 2021, Introduction, Chapters 1-7, 9, and 15-17.	IAA Note 100	C & D	OP NEW
International Actuarial Association, International Standard of Actuarial Practice: <ul style="list-style-type: none"> • ISAP 1 - General Actuarial Practice, 2017 • ISAP 4 - IFRS 17 Insurance Contracts, 2019 • ISAP 5 - Insurer Enterprise Risk Models, 2018 • ISAP 6 - Enterprise Risk Management Programs and IAIS Insurance Core Principles, 2018 	IAA ISAP	C & E	OP



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Citation	Abbreviation	Learning Objective	Source
International Actuarial Association, Joint Own Risk Solvency Assessment (ORSA) Subcommittee of the Insurance Regulation Committee and the Enterprise and Financial Risk Committee, " Deriving Value from ORSA – Board Perspective ," 2015.	IAA ORSA	B	OP
International Actuarial Association, <i>IAA Risk Book</i> , 2016: <ul style="list-style-type: none"> • Chapter 2 - Actuarial Function • Chapter 3 - Professional Standards • Chapter 9 - Distribution Risks • Chapter 10 - Own Risk and Solvency Assessment (ORSA) 	IAA Risk Book	A, B, & E	OP
International Association of Insurance Supervisors, Core Curriculum (CC) for Insurance Supervisors: <ul style="list-style-type: none"> • Module 5.1.1: Reinsurance, Chapters 5-7 • Module 5.6.1: Solvency - Principles and structures • Module 6.1.1: Consumer protection • Module 7.1.1: Market analysis 	IAIS CC	A, B, & D	OP
International Association of Insurance Supervisors, Insurance Core Principles and Common Framework for the Supervision of Internationally Active Insurance Groups: <ul style="list-style-type: none"> • ICP1: Objectives, Powers and Responsibilities of the Supervisor <p>Candidates are only responsible for the material related to ICP1 found on pp. 18-19 of this document.</p>	IAIS ICP1	B	OP
Klein, R. W., " Principles for Insurance Regulation: An Evaluation of Current Practices and Potential Reforms ," The Geneva Papers, 2012, 37, pp. 175–199.	Klein	A	OP
Kousky, C. and Kunreuther, H., "Risk Management Roles of the Public and Private Sector," Risk Management and Insurance Review, 2018, Volume 21, Issue 1, pp. 181-204.	Kousky	A	B
McAnaney, J., et al., " Government-sponsored Natural Disaster Insurance Pools: A view from down-under ," International Journal of Disaster Risk Reduction, 2015.	McAnaney	A	OP
National Association of Insurance Commissioners, International Insurance Relations (G) Committee, " Internationally Active Insurance Group (IAIG) ," updated 5/14/2020.	NAIC IAIG	B	OP
Organisation for Economic Co-operation and Development (OECD), " Summary on Private Health Insurance in OECD Countries ," The OECD Health Project, OECD Publishing, Paris, 2004.	OECD	A	OP



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Citation	Abbreviation	Learning Objective	Source
Reserve Bank of New Zealand, " Review of Insurance Solvency Standards: Structure and IFRS 17 ," November 2020, pp. 5-38 excluding Sections 2.1, 2.3, 3.3.1, 5.4, and 5.5 Candidates are not responsible for the life/annuity sections, nor for the approach currently used by New Zealand (including N.Z. IFRS 4).	New Zealand	B	OP
Scott, D., "IFRS17 Pocket Guide on reinsurance contracts held," IFRS Foundation, 2018.	Pocket Guide	D	OP
Swartz, N. P. and Coetzer, P., " Takaful: An Islamic insurance instrument ," Journal of Development and Agricultural Economics, Vol. 2(10), 2010, pp. 333-339.	Swartz	A	OP
Thanasegaran, H. and Shaiban, M., "Harmonisation of Takaful (Islamic Insurance) Regulation - A realistic goal or improbable ideal?," Singapore Journal of Legal Studies, 2014, pp. 328-354.	Thanasegaran	A	DSK
The Geneva Association, " Modernising Insurance Solvency Regimes — Key Features of Selected Markets ," 2016. Candidates are not responsible for knowledge of country-specific regimes.	Geneva	B	OP



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Supplemental Readings

Candidates may be interested in further exploration of these topics on their own. The following provides a list of readings that provide broader perspective. Text references are organized by topic and then alphabetized by the citation.

Note that these materials will **not** be tested on the exam. This material is not archived on the CAS website.

Regulation Issues
Eling, M. and Pankoke, D., "Systemic Risk in the Insurance Sector: A Review and Directions for Future Research," <i>Risk Management and Insurance Review</i> , 2016, Volume 19, Issue 2, pp. 249-284.
International Actuarial Association, Resource and Environment Working Group, <i>Flood Risk Discussion Paper</i> , June 2019.
International Association of Insurance Supervisors <u>Insurance Core Principles (ICPs):</u> <ul style="list-style-type: none">• ICP 18: Intermediaries (such as agents and brokers)• ICP 19: Conduct of Business (fair treatment of customers)• ICP 20: Public Disclosure (to give policyholders and market participants a clear view of their business activities, performance, and financial position)• ICP 24: Macroprudential Surveillance and Insurance Supervision Core Curriculum (CCs) for Insurance Supervisors: <ul style="list-style-type: none">• Module 6.2.1: <u>Intermediaries</u>• Module 6.4.1: <u>Information, disclosure and transparency toward the market</u>
Klein, R., "Insurance Markets Regulation: Catastrophe Risk, Competition, and Systemic Risk," Springer, 2013.
Maysami, R. C. and Kwon, W. J., "An Analysis of Islamic Takaful Insurance," <i>Journal of Insurance Regulation</i> , 1999, Volume 18, Issue 1.
McCullough, K. and Sirmans, E.T., "A Comparison of the <i>Risk Management and Own Risk and Solvency Assessment Model Act</i> and Insurer Ratings," <i>Journal of Insurance Regulation</i> , 2017, Volume 36, No. 3.
National Association of Insurance Commissioners, Casualty Actuarial and Statistical Task Force, <i>Price Optimization White Paper</i> , November 2015, pp. 1-16.
National Association of Insurance Commissioners, Solvency Modernization Initiative (E) Task Force, <i>The U.S. National State-Based System of Insurance Financial Regulation and the Solvency Modernization Initiative</i> , August 2013. Chapter 4 is on Market Regulation.



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Solvency

International Association of Insurance Supervisors

[Insurance Core Principles \(ICPs\):](#)

- ICP 16: Enterprise Risk Management for Solvency Purposes
- ICP 17: Capital Adequacy

General Comparisons

- [Summary of Asia Pacific Solvency Regulation](#)
- [International ORSA Regulatory Requirements Chart - July 2018](#)

Canada

- [Dynamic Capital Adequacy Testing \(Canadian Capital Adequacy Testing\)](#)
- [MCT Guideline – 2019 version \(Canadian Capital Adequacy/Solvency Standards\)](#)

China C-ROSS

- [C-ROSS China Risk Oriented Solvency System](#)
- [Analysis of China's new C-ROSS Solvency Capital Regime](#)

Singapore

- [New Risk Based Capital Framework for Insurers in Singapore](#)

Solvency II

- [The prudential regulation of insurers under Solvency II](#)
- [Solvency II – Technical Provisions for General Insurers \(2013 Working Party Report\)](#)
- [Solvency II – General insurance](#)

United States Risk-based Capital System

- [2013 NAIC White Paper entitled The U.S. national state-based system of insurance financial regulation and the solvency modernization initiative](#)
- [NAIC Insurance Regulatory Information System Ratios Manual](#)



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IFRS Foundation, educational pieces available at https://www.ifrs.org/supporting-implementation/supporting-materials-by-ifrs-standards/ifrs-17/
IFRS Foundation, International Financial Reporting Standard (IFRS) 17 – Insurance Contracts . Free login required, first 37 pages including Appendix A on Defined Terms.
IFRS Foundation, Transition Resource Group (TRG) discussions on IFRS 17 interpretation available at https://www.ifrs.org/-/media/feature/groups/trg-insurance-contracts/trg-agenda-paper-tracker.pdf .
International Actuarial Association, <i>IAA Risk Book</i> , 2016: <ul style="list-style-type: none"> • Chapter 14 - Financial Statements
International Actuarial Association, Risk Adjustments for Insurance Contracts under IFRS 17 , Chapters 3 and 4; potentially include Chapters 7 and 8, as well.

Source Key

B	Book—may be purchased from the publisher or bookstore.
DSK	Material included in the 2022 Digital Study Kit.
NEW	Indicates new or updated material.
OP	All text references marked as Online Publications will be available on a web page titled Complete Online Text References. These papers have been archived on the CAS website for educational purposes.
SK	Material included in the 2022 Study Kit or Update.
SKU	Material included in both the 2022 CAS Study Kit and the 2022 Update to the 2021 Study Kit.

Items printed in **red** indicate an update, clarification, or change.