

*Ken Qian and Zak Fischer, the TIA instructors for the QFI track, put together this document to summarize the syllabus changes to the QFI track for 2023. Note that this document was released on 11/16/2022.*

## Overview of Spring 2023 QFI Track Changes

In May 2022, the SOA announced [changes to FSA](#) exams starting with the Spring 2023 sitting. The new syllabi are now posted on each exam page at SOA.org. This document starts with a high-level summary of how the QFI exams changed relative to the Fall 2022 sitting, including our perspective on the changes. We then discuss specifics for each exam.

	Exam	F2022	S2023	Change
<b>QFI Quant</b>	<b>Hours</b>	<b>5</b>	<b>3.5</b>	<b>-1.5 (-30%)</b>
	Page Count*	1,608	1,303	-305 (-19%)
	Pages/Hour	322	372	+50 (+16%)
<b>QFI PM</b>	<b>Hours</b>	<b>5</b>	<b>3.5</b>	<b>-1.5 (-30%)</b>
	Page Count*	2,015	1,495	-520 (-26%)
	Pages/Hour	403	427	+24 (+6%)
<b>QFI IRM</b>	<b>Hours</b>	<b>2</b>	<b>3</b>	<b>+1 (50%)</b>
	Page Count*	616	1,099	+483 (78%)
	Pages/Hour	308	366	+58 (+19%)
<b>Total QFI</b>	<b>Hours</b>	<b>12</b>	<b>10</b>	<b>-2 (-17%)</b>
	Page Count*	4,239	3,897	-342 (-8%)
	Pages/Hour	353	390	+36 (+10%)

*\*Note: All page counts are approximate*

## TIA Seminars

As always, we will continue to offer TIA seminars for all QFI track exams. Our QFI seminars are all available for purchase now, and anyone who signs up will have access to our updated seminars based on the new syllabus through the Spring exam dates. Make sure to check the first file in your seminar which has a detailed release date schedule for when we will roll out course materials for each seminar. All seminars have detailed study manual files and videos ready to go, so you can get started now if you are ready!

## Key Changes and Takeaways

- Total QFI exam time was reduced from 12 to 10 hours at the track level
- Total syllabus pages for the QFI track fell by 342 pages, or about 8%
- Even though exam runtime and page counts were reduced overall, the reduction in page count was smaller than the reduction in exam runtime, which resulted in a fairly significant increase in the density of syllabus source material per exam hour
- Anyone who has passed QFI QF, QFI PM or QFI IRM in Fall 2022 or earlier, will get transition credit for that same exam
- Candidates who passed ERM in Fall 2022 or earlier will get transition credit for QFI IRM. Starting in Spring 2023, however, passing ERM does not exempt candidates from taking QFI IRM. ERM can still be optionally taken and used as credit toward CERA in 2023 and beyond, but anyone who chooses to take ERM in the future will be choosing to take 4 FSA exams in total since a post-2022 passing of ERM cannot be used use credit for the new 3-hour QFI IRM exam

We think that, overall, these changes will improve candidates' experience taking QFI track exams. Many candidates will welcome the reduction in exam runtime. Sitting in front of a Prometric screen for a 5-hour CBT exam was a grueling experience that probably compromised some candidates' performance near the end of the time limit.

It should be noted that the QFI track still covers a huge amount of material – going from 4,239 pages of source material in Fall 2022 to 3,897 in Spring 2023. While the total exam time got reduced by 17% (from 12 to 10 hours at the track level), the total page count only got reduced by 8%. As a result, the density of source material pages per hour increased by roughly 10%. We do not expect exam runtime reductions alone to make the exams *easier* to pass. In our experience, syllabus size and density are bigger drivers of effort than the runtime of the exam.

**In summary, while we do not expect the total effort/difficulty at the QFI track level to change materially, we do think candidates' experience on each individual exam will be more manageable because the total syllabus content of the QFI track is more evenly balanced across all the three exams.**

## Changes to QFI Quant

Starting in 2023, QFI Quant was changed from a 5 hour exam (100 points) to a 3.5 hour exam (70 points). As a result, quite a few readings were either dropped completely from the QFI track, or moved over to the QFI PM and QFI IRM exams. The main structural update to the exam was reducing the fixed income topic from the exam (mainly covered by the chapters 1-6 in the Fixed Income Securities (FIS) textbook by Pietro) and merging its coverage to the IRM and PM exams. Other core readings for the syllabus, such as the Mathematics of Financial Derivatives textbook by Neftci, the Volatility Smile textbook, and later chapters of the Fixed Income Securities textbook that cover interest rate models largely remained unchanged. By

our counts, the total number of source material pages on the syllabus decreased from 1,608 to 1,303 – about a 19% reduction.

There were two new readings added to the QFI Quant syllabus:

- QFIQ-136-23: Calibrating Interest Rate Models
- Understanding the Connection between Real-World and Risk-Neutral Scenario Generators

The following readings were removed completely from the QFI Track:

- QFIQ-113-17: Frequently Asked Questions in Quantitative Finance: Q23 (pg 103-105), Q25 (pg 109-112), Q26 (pg 113 -115), Q36 (pg 155-159), Q37 (pg 160-161), Q60 (pg 248-249)
- An Introduction to the Mathematics of Financial Derivatives: Chapter 21, Relating Conditional Expectations to PDEs
- FIS: Ch 1
- FIS: Ch 2
- FIS: Ch 17
- QFIQ-114-17: Frequently Asked Questions in Quantitative Finance: Q38 (pg 162-166), Q39 (pg 167-173), Q53 (pg 223-225)
- QFIQ-129-21: Negative Interest Rates and Their Technical Consequences
- QFIQ-131-21: Beyond LIBOR: A Primer on the New Reference Rates

The following readings were moved to the QFI PM exam:

- FIS: Ch 3 (Exclude Appendix)
- FIS: Ch 4
- QFIQ-121-20: A Guide to Duration, DV01, and Yield Curve Risk Transformations

The following readings were moved to the QFI IRM exam:

- FIS: Ch 5.1-5.7
- FIS: Ch 6

## Changes to QFI PM

Starting in 2023, QFI PM was changed from a 5 hour exam (100 points) to a 3.5 hour exam (70 points). Before delving into the reading changes, we wanted to jot down the SOA's high-level commentary on the QFI PM changes:

*“The number of topics has remained unchanged at seven, but the learning outcome statements have been reorganized. Coverage of credit risk and liquidity risk have moved to IRM. Non-core*

*readings have been dropped. The number of pages in the readings has been reduced in proportion to the reduction in exam hours.”*

Next, we will describe the syllabus changes in more detail. The layout was changed, and many sections were reorganized.

The following reading was added to QFI PM and is a new reading for the QFI track:

- QFIP-157-23: Ch 12 of Quantitative Enterprise Risk Management, Hardy & Saunders

Additionally, the following readings were moved from QFI QF into QFI PM:

- Fixed Income Securities (Veronesi, 2010): Chapter 3 & 4
- QFIP-158: A Guide to Duration, DV01, and Yield Curve Risk Transformations

Because QFI PM was reduced from a 5 hour to 3.5 hour exam, there were a significant number of readings that were removed, which are listed below:

- HOFIS Ch 18 - Fixed Income Exchange Traded Funds
- Credit Risk Modelling, Bolder (Ch 1 - 4)
- xVA Challenge (Ch 1, 2, 3 & 12)
- Quantitative Credit Portfolio Management (Ch 5 - 6)
- QFIA-105: Report of the Life Liquidity Work Group
- QFIA-117: Reflections on Northern Rock
- QFIP-106: Liquidity Risk: Measurement and Management (Ch 2 – 3)
- QFIP-123: Liquidity Risk Management: Best Risk Management Practices
- QFIC-137: Managing your Advisor
- QFIP-148: IFRS 17 Insurance Contracts
- QFIP-150: IFRS 9 For Insurers
- QFIP-156: Minimizing Accounting Mismatches Relating to Financial Risk for Insurers
- QFIP-128: The Evolution of LDI and the Role of a Completion Manager
- QFIP-144: Risk Parity is All About Balance, Bridgewater Associates
- QFIP-152: How Behavioral Biases Affect Investment Professionals
- QFIP-153: Asset Allocation in a Low Yield Environment

## Changes to QFI IRM

Starting in the Spring 2023 sitting, QFI IRM is being changed from a 2 hour exam (40 points) to a 3 hour exam (60 points). The number of topics in the syllabus has also been increased from three to five. A new topic of risk mitigation was added, and existing readings were reorganized across the other four section. Because the exam is now longer, there was a significant amount of new readings added to the exam. As a result, the total number of source material pages on the syllabus increased from 616 to around 1099, which is around a 78% increase. Some of these new readings were moved over from the QFI PM and QFI Quant exams. In addition, many of these new readings, such as the chapters from the Credit Risk Modeling, are much more quantitative, thus bringing more calculation-based material to an exam that previously had a reputation for being a very qualitative exam.

The following readings were added to the QFI IRM exam:

- Investment Risk Management, Baker, Kent, and Filbeck (2015) - Ch 8: Liquidity Risk
- Investment Risk Management, Baker, Kent, and Filbeck (2015) - Ch 25: Futures
- Investment Risk Management, Baker, Kent, and Filbeck (2015) - Ch 26: Swaps
- Quantitative Enterprise Risk Management - Ch 14: Market Risk and Governance
- Quantitative Enterprise Risk Management - Ch 15: Risk Mitigation Using Options and Derivatives
- Quantitative Enterprise Risk Management Ch 19: Behavioural Risk Management
- QFII-129-23: Ch 2, Risk Budgeting Approach of Introduction to Risk Parity and Risk Budgeting, T. Roncalli
- QFII-130-23: General American Life Can't Pay Investors
- HOFIS Ch 68: Credit Derivatives
- HOFIS Ch 69: Credit Derivative Valuation and Risk
- Credit Risk Modeling Ch. 1: Getting Started (**Moved from QFI PM**)
- Credit Risk Modeling Ch. 2: A Natural First Step (**Moved from QFI PM**)
- Credit Risk Modeling Ch. 3: Mixture or Actuarial Models (**Moved from QFI PM**)
- Credit Risk Modeling Ch. 4: Threshold Models (**Moved from QFI PM**)
- QFII-128-23: Liquidity Risk Management: Best Risk Management Practices CRO Forum, October 2008 (**Moved from QFI PM**)
- FIS Ch 5 (**Moved from QFI Quant**)
- FIS Ch 6 (**Moved from QFI Quant**)

Readings that were removed from the IRM exam were main one-off readings that covered a variety of different topics, such as risk-budgeting using value-at-risk. The following readings were removed from the QFI IRM exam:

- QFII-103-14 Advances in Risk Management and Risk Governance
- QFII-111-17 Tracing the Origins of Bad Behavior
- QFII-117-19 Chapter 7 of Strategic Risk Management Practice: How to Deal Effectively with Major Corporate Exposures, Andersen & Schroder

- Managing Investment Portfolios, Maginn & Tuttle Ch. 9: Risk Management, Section 6
- Value at Risk (Jorion) - Ch. 17: VAR and Risk Budgeting in Investment Management
- QFII-126-22: Aggregation of Risks and Allocation of Capital (Sections 5-7)

Our QFI IRM course has been updated to reflect most of these new changes to the syllabus, and you can start studying the readings we have completed to get a head start on studying for the IRM exam. We are currently working on the development of lessons for the new readings, and they should be complete over the coming weeks.

## Changes to ERM

ERM is reduced from a 4-hour exam (80 points) to a 3-hour exam (60 points) starting in Spring 2023. All changes to the ERM exam were deletions. All of the readings listed under the 6 ERM extensions were dropped, which reduced the exam to the core syllabus material only. There were no changes to the core syllabus material. The removal of the extension material reduced the ERM syllabus page count from just over 1,400 pages to roughly 1,100 pages, or by roughly 22%.

People who pass ERM after 2022 can no longer use it as credit toward FSA on the QFI track (or any track other than CFE). If you passed ERM in Fall 2022 or earlier, you will get transition credit for QFI IRM and will not have to take QFI IRM to reach FSA. If you do not yet have credit for ERM and still want to obtain the CERA credential, you will have to pass ERM *in addition* to the 3 exams on the QFI track. This means taking 4 FSA exams in total.

Though we expect demand for the ERM exam to decrease substantially in 2023, we are continuing to offer our ERM course, which is fully available now.

## Summary

We hope you found this guide helpful to give you an overview for the changes to the QFI track. We think many people will appreciate that the total exam run time is decreasing from 12 to 10 hours. However, keep in mind the syllabus is still quite large, and the density of source material pages per hour has increased. We think the QFI exams, as well as all FSA exams, will continue to be challenging.

We look forward to helping many of you prepare for your QFI exams and wish you the best of luck on your exams!

Your instructors,

Zak Fischer, FSA

[zak@theinfiniteactuary.com](mailto:zak@theinfiniteactuary.com)

Ken Qian, FSA

[ken.qian@theinfiniteactuary.com](mailto:ken.qian@theinfiniteactuary.com)