



2017



FRM<sup>®</sup>

Candidate Guide



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The Financial Risk  
Manager (FRM<sup>®</sup>)  
designation is the  
world's most highly  
respected certification  
for professionals who  
manage risk.





# Introduction

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For 20 years, the FRM has set the global standard for risk management. Developed by the world's leading risk practitioners, the designation signifies a mastery of the essential skills and knowledge needed to help organizations succeed in today's rapidly changing financial landscape.

The FRM challenges candidates to understand and apply a range of knowledge and skills necessary to function effectively as a risk manager. Its curriculum is updated annually by a group of distinguished risk professionals and leading academics with diverse backgrounds, ensuring that the designation meets the evolving demands of the financial industry.

Currently, more than 40,000 Certified FRMs are employed internationally at nearly every major bank, asset management firm, hedge fund, consulting firm, and regulator in the world. More than 1,000 organizations had five or more FRM registrations in 2015, illustrating the rapidly increasing demand for professionals trained in measuring and managing financial risk.

By achieving your FRM certification, you will be joining a network of professionals in more than 190 countries and territories worldwide, giving you a way to expand your professional opportunities throughout your career. Moreover, employers know that FRMs have the knowledge needed to anticipate and respond to critical issues, providing them with an edge in their career and professional development.

The FRM Exam Part I covers the tools used to assess financial risk:

- ▶ Foundations of Risk Management
- ▶ Quantitative Analysis
- ▶ Financial Markets and Products
- ▶ Valuation and Risk Models

The FRM Exam Part II focuses on the application of the tools acquired in the FRM Exam Part I through a deeper exploration of:

- ▶ Market Risk Measurement and Management
- ▶ Credit Risk Measurement and Management
- ▶ Operational and Integrated Risk Management
- ▶ Risk Management and Investment Management
- ▶ Current Issues in Financial Markets



## Earning your FRM certification

The first step to becoming an FRM is passing a rigorous, two-part exam. To enroll in the program, register for the FRM Exam online via the GARP website. Both parts of the FRM Exam are offered twice a year, in May and November. Once you pass the FRM Exam Part I, you have four years to pass Part II.

After achieving a passing score on both parts of the FRM Exam, candidates must demonstrate a minimum of two years of full-time work experience in finance or a related field to complete their certification. Related work experience may include: trading, portfolio management, academia, industry research, auditing, risk consulting, or risk technology. If you have questions about whether your work experience qualifies, please contact [memberservices@garp.com](mailto:memberservices@garp.com).

Once certified, we strongly recommend that FRMs keep their skills and knowledge up to date by participating in GARP's Continuing Professional Development (CPD) program. The program offers FRMs a framework to help them stay ahead of the curve through ongoing education, and encourages participants to earn 40 credit hours every two years to maintain the integrity of their certification. Although participation in the CPD program is voluntary, it is considered best practice for FRMs to participate in the program throughout their career.

### Earn your FRM Certification



FRM Exam Part I  
4 hours/100 questions



Demonstrate 2 years'  
related work experience



FRM Exam Part II  
4 hours/80 questions



Voluntary continuing  
education 40 hours/2 years





## Who should consider the FRM certification?

### Professionals

The FRM helps professionals in risk management, investment management, or other critical areas of the financial services industry broaden their knowledge of the different types of financial risk and enhance their current skill set. Those who are just beginning their careers benefit from the breadth of the curriculum, which exposes candidates to the major strategic aspects of risk management. More established practitioners often choose to become Certified FRMs in order to ensure that they are apprised of the latest trends in risk management, or they want to challenge themselves by testing their knowledge against an elite pool of risk managers.

### Career Changers

Whether you work in financial risk or are interested in transitioning to a risk role, becoming an FRM can help accelerate your career. Professionals from non-finance or non-risk roles become FRMs in order to develop specialized, practical knowledge that can be applied in the global financial market. Undertaking the rigorous course of study to become an FRM signals a commitment to an area of financial services that is growing rapidly across the globe.

### Students

Students with an interest in finance may elect to sit for the FRM Exam during or immediately after completing their studies. The FRM Program can complement their prior coursework or help them develop a foundation of specialized knowledge that goes beyond their academic curriculum. Since the FRM Exam is practitioner-driven, students realize that earning the FRM designation demonstrates to future employers that they are able to master complex real-world challenges.



# Using the FRM to Advance Your Career

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As an FRM, you'll have a competitive advantage that can help you stand out to employers. By passing the Exam and carrying your certification, you'll demonstrate that you possess the knowledge and tools necessary to assess and manage the challenges associated with the dynamic financial services industry. The FRM designation is by far the best known and most respected designation for financial risk, with 25 of the top 25 banks in the world having a significant presence of FRMs.

## Benefits of the FRM

Mastering the FRM curriculum requires discipline and represents a significant commitment to the risk management profession. Because of this, FRMs are considered leaders in the industry with a strong commitment to professional excellence. Using the designation in your professional communications emphasizes accomplishment, and sets you apart in a crowded market.

### ▶ **Demonstrate your knowledge**

Earning your certification testifies that you have the necessary skills to effectively assess and manage financial risk.

### ▶ **Highlight your experience**

The designation testifies that you have worked in the field for at least two years, signaling to employers that you have the experience necessary to succeed.

### ▶ **Join an elite group**

You'll be part of a network of like-minded professionals, allowing you to expand your career opportunities.

### ▶ **Enhance your reputation**

All FRMs are expected to adhere to the GARP Code of Conduct\*, letting employers know that FRMs will help safeguard their firms' reputations.

\*This reading is freely available on the GARP website.





# Exam Development, Structure, and Content

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## Exam Development

The FRM Program is developed under the guidance of the FRM Committee, which is comprised of prominent global risk management professionals and academics. The FRM Committee establishes the topic areas to be tested on the Exam on an annual basis. To further align with industry needs and calibrate our understanding of the demands of the global risk management community, we also conduct formal job task analysis surveys designed to determine the knowledge, skills, and abilities required of effective risk managers. This process helps ensure that successful candidates are prepared to effectively contribute to their organizations.

## Exam Structure

The FRM Exam is a two-part, paper-and-pencil, multiple choice exam. The FRM Exam Part I consists of 100 equally weighted questions and is offered in the morning. The FRM Exam Part II consists of 80 equally weighted questions and is offered in the afternoon. Candidates are allotted four hours to complete each exam and have the option to complete both parts in one or two cycles. The exams are offered in person in American English, twice a year in May and November at approximately 100 exam sites around the world. The FRM Exam is a comprehensive, practice-oriented assessment that covers the fundamental tools and techniques used in risk management, their underlying theories, and the major sub-areas of risk.





## Topics and Weights

### FRM Exam Part I

#### Foundations of Risk Management | 20%

This area focuses on a candidate's knowledge of foundational concepts of risk management and how risk management can add value to an organization and includes:

- Basic risk types, measurement and management tools
- Creating value with risk management
- The role of risk management in corporate governance
- Enterprise Risk Management (ERM)
- Financial disasters and risk management failures
- The Capital Asset Pricing Model (CAPM)
- Risk-adjusted performance measurement
- Multifactor models
- Data aggregation and risk reporting
- Ethics and the GARP Code of Conduct

#### Financial Markets and Products | 30%

This area tests the candidate's knowledge of financial products and the markets in which they trade including:

- Structures and functions of financial institutions
- Structure and mechanics of OTC and exchange markets
- Structure, mechanics, and valuation of forwards, futures, swaps, and options
- Hedging with derivatives
- Interest rates and measures of interest rate sensitivity
- Foreign exchange risk
- Corporate bonds
- Mortgage-backed securities

#### Quantitative Analysis | 20%

This area tests a candidate's knowledge of basic probability and statistics, regression and time series analysis, and various quantitative techniques useful in risk management such as:

- Discrete and continuous probability distributions
- Estimating the parameters of distributions
- Population and sample statistics
- Bayesian analysis
- Statistical inference and hypothesis testing
- Estimating correlation and volatility using EWMA and GARCH models
- Volatility term structures
- Correlations and copulas
- Linear regression with single and multiple regressors
- Time series analysis and forecasting
- Simulation methods

#### Valuation and Risk Models | 30%

This area will test a candidate's knowledge of valuation techniques and risk models such as:

- Value-at-Risk (VaR)
- Expected shortfall (ES)
- Stress testing and scenario analysis
- Option valuation
- Fixed income valuation
- Hedging
- Country and sovereign risk models and management
- External and internal credit ratings
- Expected and unexpected losses
- Operational risk

## FRM Exam Part II

### Market Risk Measurement and Management | 25%

This section tests a candidate's knowledge of market risk measurement and management techniques. These include:

- VaR and other risk measures
  - Parametric and non-parametric methods of estimation
  - VaR mapping
  - Backtesting VaR
  - Expected shortfall (ES) and other coherent risk measures
- Modeling dependence: Correlations and copulas
- Term structure models of interest rates
- Discount rate selection
- Volatility: Smiles and term structures

### Credit Risk Measurement and Management | 25%

This area focuses on a candidate's understanding of credit risk management with some focus given to structured finance and credit products such as collateralized debt obligations and credit derivatives. Areas of knowledge include:

- Credit analysis
- Default risk: Quantitative methodologies
- Expected and unexpected loss
- Credit VaR
- Counterparty risk
- Credit derivatives
- Structured finance and securitization

### Risk Management and Investment Management | 15%

This area focuses on a candidate's knowledge of risk management techniques applied to the investment management process, including:

- Factor theory
- Portfolio construction
- Portfolio risk measures
- Risk budgeting
- Risk monitoring and performance measurement
- Portfolio-based performance analysis
- Hedge funds

### Operational and Integrated Risk Management | 25%

This section addresses a candidate's knowledge of two areas of increasing importance for many firms—operational risk management and integrated risk management. This includes:

- Principles for sound operational risk management
- Enterprise Risk Management (ERM) and enterprise-wide risk governance
- IT infrastructure and data quality
- Internal and external operational loss data
- Methods of determining operational risk capital
- Model risk and model validation
- Extreme value theory (EVT)
- Risk-adjusted return on capital (RAROC)
- Economic capital frameworks and capital planning
- Liquidity risk measurement and management
- Failure mechanics of dealer banks
- Stress testing banks
- Third-party outsourcing risk
- Regulation and the Basel Accords

### Current Issues in Financial Markets | 10%

The candidate is expected to be familiar with the readings from this section, approaching each paper critically as a risk manager equipped with the knowledge from the other sections. This area of the exam will test a candidate's knowledge of the material covered by each paper. Recent topics include:

- Bitcoin and virtual currencies
- Market and funding liquidity
- Algorithmic trading and fixed income market algorithmic trading
- Negative policy rates
- Energy economies and corporate debt



# Registration

In 2017, the FRM Exam will be offered on May 20 and November 18. The cost to register for the Exam varies based on the registration period, and you must register online. While it is possible to sit for both parts of the Exam on the same day, your FRM Exam Part II will not be graded unless you first pass the FRM Exam Part I.

## Fees

First-time registrants for the FRM Exam are required to pay an enrollment fee (the cost associated with developing and administering the Exam) and an exam fee (the cost to sit for each Exam). Returning registrants need only pay the exam fee for subsequent registrations.

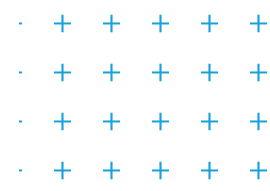
Registration fees include a complimentary one-year GARP Individual Membership for first-time registrants (a US \$195 value), but do not include the cost of study materials. Fees can be paid via secure online payment, by check (if drawn on a U.S. bank and payable in U.S. dollars), or by wire transfer.

## Earning your FRM Certification

	<b>New Candidate</b>	<b>Returning Candidate</b>
<b>Early Registration</b> May 2017 Exam: Dec. 1-Jan. 31 Nov 2017 Exam: May 1-July 31	<b>\$750</b> Enrollment Fee: \$400 Exam Fee: \$350	<b>\$350</b> Enrollment Fee: \$0 Exam Fee: \$350
<b>Standard Registration</b> May 2017 Exam: Feb. 1-Feb. 29 Nov 2017 Exam: Aug. 8-Aug. 31	<b>\$875</b> Enrollment Fee: \$400 Exam Fee: \$475	<b>\$475</b> Enrollment Fee: \$0 Exam Fee: \$475
<b>Late Registration</b> May 2017 Exam: Mar. 1-Apr. 15 Nov 2017 Exam: Sept. 1-Oct. 15	<b>\$1050</b> Enrollment Fee: \$400 Exam Fee: \$650	<b>\$650</b> Enrollment Fee: \$0 Exam Fee: \$650

## Scholarships

GARP offers a scholarship program, open to full-time graduate-level students and university faculty taking the FRM Exam Part I. All scholarship candidates must register and pay the enrollment fee and exam registration fees prior to submitting their application. Candidates who are awarded a scholarship will be refunded the cost of the exam registration fee only. More information on eligibility and the application process can be found on GARP's website.



## Exam Locations

The FRM Exam Part I and Part II are offered in person at more than 100 exam sites around the world. While the cities generally remain the same, locations within each city may change from year to year. A complete list of exam sites is available on the GARP website.

## Deferrals

An FRM candidate may only defer each exam registration once to the next test date. Please note:

- ▶ A deferral to the next exam date must be submitted by the last day of registration. For example, the last day of registration for the May Exam is April 15, and for the November Exam, the last day of registration is October 15.
- ▶ There is an administrative processing fee of US \$150 that accompanies each exam deferral. This fee is payable by credit card only at the time of your deferral request.
- ▶ Required readings change from year to year.

More information on deferring the FRM Exam can be found on GARP's website.

## Important Steps



### Identification

Make sure you have a current (non-expired), original, valid, government-issued passport or driver's license with a photograph (other types of identification cards will not be accepted) that will not expire by the exam date.



### Guidelines

Familiarize yourself with the FRM Exam deadlines and policies listed online.



### Location

View the list of examination sites online.



### Accommodations

If needed, you may request necessary accommodations per the Americans with Disabilities Act (ADA) or an alternative exam date for religious reasons through Religious Alternate Date (RAD).



# Preparation

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GARP provides study resources, practice exams, and information on approved, third-party Exam Preparation Providers to help FRM candidates get ready for the Exam. Due to the sizeable amount of material covered in the Exam, we suggest that you create a weekly study schedule to spread out study hours over an extended period. Preparing for the Exam at the last minute is strongly discouraged.

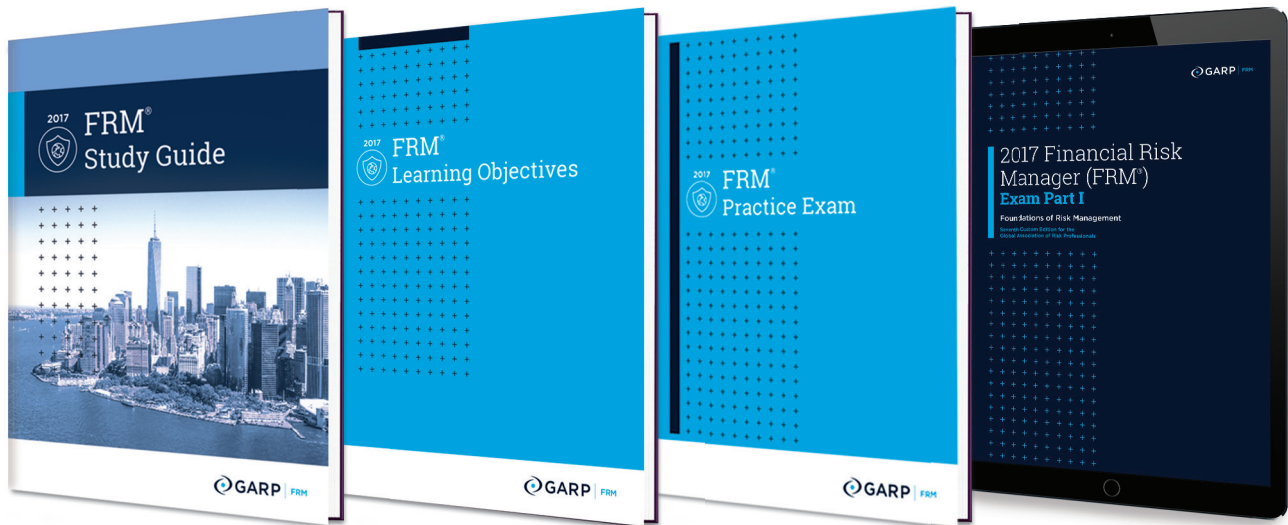
Preparation time will vary based on your prior professional experience, academic background, and familiarity with the concepts tested on the curriculum. For past Exams, a majority of candidates report spending anywhere between 100 to 400 hours studying, with an average spending about 275 hours on exam preparation.



**GARP offers a number of free study resources, including: the Study Guide, Learning Objectives, and Practice Exams**

## Study Materials

- ▶ The **free FRM Study Guide** summarizes all recommended readings for the FRM Exam. In addition, key concepts appear as bullet points at the beginning of each section, and are intended to help you identify the major themes and categories associated with a particular section.
- ▶ The **free FRM Learning Objectives** document provides a comprehensive framework to guide candidates in their self-study preparation for the FRM Exam. It contains information and approximate weightings for each of the broad knowledge domains covered by the Exam, specific curriculum readings associated with each knowledge domain, and individual learning objectives for each reading. Every FRM Exam question maps to at least one learning objective, making the FRM Learning Objectives document a vital study resource that should be referred to regularly during exam preparation.
- ▶ The **free FRM Practice Exams** are available for Part I and Part II on the GARP website. They provide a good sense of the question types to expect when sitting for the actual FRM Exam, and will allow candidates to estimate how much time they can expect to spend answering individual questions. Each Practice Exam contains questions, answer keys, and detailed explanations for all answers. It is strongly recommended that candidates replicate exam day conditions when taking each Practice Exam.



- ▶ The **FRM Books** cover the readings and key themes that make up the core of the FRM curriculum. Exam questions are based solely on the material in the current year's FRM curriculum and Learning Objectives, making the books essential for Exam preparation. Please note: the online readings are part of the curriculum and will be tested.
- ▶ The **Weekly Study Plan** is available on the GARP website and offers a customizable sample framework. We encourage you to use this study plan as a foundation and modify based on your study schedule and areas of strength or weakness.

## Exam Preparation Providers

You may wish to study with the assistance of an FRM Exam Preparation Provider (EPP), an officially recognized center that may offer courses online or in person.

GARP provides a list of approved EPPs on our website as a service to FRM candidates. Please note that GARP does not endorse, promote, review, or warrant the accuracy of the products or services offered by providers of FRM-related information, nor does it endorse any pass rates claimed by the EPP. Further, GARP is not responsible for any fees or costs paid by the user to an EPP.

## Study Groups

While the FRM curriculum is designed to be a self-study program, many find that studying with their peers positively impacts their exam preparation. You can connect with other candidates to form study groups by joining our Facebook or LinkedIn groups. Alternatively, many GARP Chapters now facilitate study group sessions that enable FRM candidates in the same city or region to meet each other. To see if a Chapter is hosting an event near you, please visit the Chapters section of our website.





The FRM Exam is designed to assess a candidate's ability to measure and manage risk in a real-world environment.

# Sitting for the FRM Exam



The FRM Exam is a pencil-and-paper multiple choice exam offered exclusively in American English and in person to ensure fairness and consistency for all candidates globally.

## What to Bring on Exam Day:

- ▶ Printed Exam Admission Ticket
- ▶ Current (non-expired), original, valid, government-issued photo identification as described below
- ▶ GARP-approved calculator

## Optional:

The following items may be carried in your pockets or in transparent plastic bags. Plastic bags must be placed under your chair and may be accessed during the Exam.

- ▶ Wallet (or money purse)
- ▶ Eyeglasses
- ▶ Tissues
- ▶ Calculator batteries
- ▶ Earplugs
- ▶ Other medically necessary items
- ▶ Pencil sharpeners
- ▶ Medicine

## What GARP Provides:

- ▶ Two wooden pencils

Food and drink containers may not be opened in the testing room. All food and drinks must be consumed outside the testing room.

## Exam Duration

Each part of the FRM Exam is four hours long. The FRM Exam Part I consists of 100 multiple-choice questions and Part II consists of 80 multiple-choice questions. Part I is offered in the morning session and Part II in the afternoon session of each exam administration.

## Identification

Only a current, valid, government-issued passport or driver's license, which must include your photograph, will be accepted for identification purposes on exam day. The name on your passport or driver's license must be exactly the same as the name on your exam registration. For more information, visit our website.



## Calculators

Only GARP-approved calculators can be used during the Exam. Use of a non-authorized calculator during the Exam will result in the candidate's answer sheet not being graded, and the candidate will receive no score for the Exam. Candidates may not consult the operator's manual for their calculator during the Exam. Your calculator's memory must be cleared prior to the start of the Exam.

The only calculators approved for use during the FRM Exam are:

- ▶ Hewlett Packard 12C (including the HP 12C Platinum and the Anniversary Edition)
- ▶ Hewlett Packard 10B II
- ▶ Hewlett Packard 10B II+
- ▶ Hewlett Packard 20B
- ▶ Texas Instruments BA II Plus (including the BA II Plus Professional)

Please review GARP's calculator policy on the website in advance of Exam day.

## Prohibited Items

In order to maintain the integrity of the testing process, no electronics, including wearable technology, are permitted inside the exam room. Additionally, baggage of any kind, writing instruments, and pencil cases may not be brought into the testing room. A designated area for these items will be provided. You will not have access to them during the Exam but may access them during lunch or at the conclusion of the Exam. A full list of permitted and prohibited items can be found on the GARP website.

## Scoring the Exam

There are no penalties for incorrect answers. Candidates sitting for both parts of the FRM Exam on the same day must pass the FRM Exam Part I first before the FRM Exam Part II will be graded.

## Exam Violations

GARP seriously reviews each and every Exam Violation Report. Some of the violations that have resulted in an Exam Violation Report being filed and the candidate's Exam subsequently not being graded include:

- ▶ Candidate began the Exam early
- ▶ Candidate opened the exam booklet early
- ▶ Candidate continued to write after the session ended
- ▶ Candidate brought a cellular telephone or smartphone into the exam room
- ▶ Candidate caught cheating
- ▶ Candidate violated GARP's calculator policy

## Exam Results

Exam results are pass/fail and are sent via email approximately six weeks after the Exam is administered. Candidates are provided with information about their quartile rankings for each section of the Exam.



By earning your  
FRM certification,  
you will join an  
elite network of  
highly skilled  
risk professionals  
around the globe.



# Frequently Asked Questions

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**Q. How much time do I need to prepare for the Exam?**

**A.** Your preparation time will vary based on your experience and background, but on average, candidates spend about 275 hours studying. In a recent survey, individual reports varied from less than 100 to more than 400 hours.

**Q. How much work experience do I need to sit for the Exam?**

**A.** No work experience is required to sit for the Exam; however, you must have at least two years of professional work experience to complete your certification and use the FRM designation.

**Q. How quantitative is the Exam?**

**A.** The FRM Exam does have a quantitative component, but the concepts are presented in real-world situations that risk managers face. The level of mathematical difficulty is on par with an advanced undergraduate or introductory graduate level finance course at most universities.

**Q. What is the difference between the FRM and the Chartered Financial Analyst (CFA)?**

**A.** The two designations attest to different skills and aspects of your capabilities, and complement each other well. The FRM is focused on risk, and tests your knowledge of topics such as market risk, operational risk, integrated risk management, valuation and risk models, and investment risk management. The CFA covers an overview of financial topics, and does not cover risk in the same depth as the FRM. Many professionals choose to demonstrate their mutual competencies by earning both designations, especially given the prominent role of risk management in the global financial industry.

**Q. Do you offer any exemptions for either part of the FRM Exam?**

**A.** No, we do not offer exemptions and cannot accept other designations in partial fulfillment of our requirements. In order to obtain a true, objective representation of your risk management competency, we cannot rely on assessments performed by other designation-granting organizations.

**Q. What are my career prospects after becoming a Certified FRM?**

**A.** As the world's most widely accepted risk management designation, the FRM differentiates you from your peers and validates your knowledge of the tools and techniques demanded by the risk management profession. There are currently more than 40,000 FRMs employed globally at nearly every major bank, asset management firm, hedge fund, consulting firm, and regulator.

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**Q. In what languages can I take the Exam?**

**A.** The Exam is administered in American English only. We work hard to ensure all questions and instructions are written clearly and concisely, and to avoid the use of colloquialisms that might be unfamiliar to non-native American English speakers.

**Q. Do I have to be a GARP Member to sit for the Exam?**

**A.** No, you do not have to be a Member to register or sit for the Exam. As part of your enrollment in the FRM Program, you will receive a complimentary GARP Individual Membership and all its privileges, which can be renewed automatically during your registration. Certified FRMs are offered a discounted membership rate in recognition of their professional achievements and dedication to best practices in financial risk.

**Q. Is continuing education mandatory for Certified FRMs?**

**A.** No, but we strongly recommend you participate in our Continuing Professional Development (CPD) program in order to maintain the value of your certification. The program requires you to earn 40 credits every two years. In general, one credit is awarded for every hour spent on a relevant educational activity.







## About GARP

The Global Association of Risk Professionals (GARP) is a non-profit organization that promotes best practices in risk management through education, training, media, and events. Our programs and services address the critical need for risk education that keeps pace with a rapidly evolving industry, and provide expert knowledge and global networking opportunities to risk professionals in more than 190 countries and territories worldwide. Our certifications are the most highly respected designations in risk around the world, and our courses provide professionals with the essential knowledge they need to identify, assess, and manage risk.

## Creating a culture of risk awareness®

**About GARP** | The Global Association of Risk Professionals (GARP) is the leading globally recognized association dedicated to the education and certification of risk professionals, connecting members in more than 190 countries and territories. GARP's mission is to elevate the practice of risk management at all levels, setting the industry standard through education, training, media, and events.



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