TOPIC-SPECIFIC LEARNING JOURNEY

COURSE PACKAGE:

"RISK MANAGEMENT"



ENTRIMA's Learning Platform lists a wide range of courses, all related to markets & trading. Some of these courses have been bundled to form a course package, as they all concerns the same field of expertise.

The Course Package "**Risk management**" consists of the following courses:

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Each of these courses ends with an exam. Upon passing the exam the learner will be certified instantly. The contents, duration and level of each course is set out in the pages hereafter.

Duration

Total duration*) of all thirteen (**13**) courses together: **585** minutes (i.e. **10** hours)

- **Study hours:** 10
- **CPD points:** 10

*) *Excluding examination*

COURSE:
RISK & OPPORTUNITY

Risk and opportunity belong to each other. On a coin one would be the flip side of the other. In this course it is explained what these concepts concern and how they can be measured. Price behaviour is covered, as well as probability distributions and their characteristics.

This course covers the following video lessons:

1. Risk versus uncertainty
2. Risk versus maximum loss
3. Price behaviour – Price dynamics & Forecasting
4. Price behaviour – Market analysis
5. Price behaviour – Price behaviour
6. Price behaviour – Random walk
7. Price behaviour – Statistics – Stochastic variables
8. Price behaviour – Statistics – Stochastic processes
9. Price behaviour – Mean reversion
10. Price behaviour – Moving averages
11. Probability distribution – Histogram versus distribution
12. Probability distribution – Cumulative
13. Probability distribution – Uniform
14. Probability distribution – Discrete
15. Probability distribution – Continuous
16. Probability distribution – Normal
17. Probability distribution – Relevant characteristics
18. Probability distribution – Log-normal
19. Probability distribution – Mean versus median
20. Price behaviour – Statistics – General
21. Price behaviour – Statistics – Variance
22. Price behaviour – Statistics – Covariance
23. Price behaviour – Statistics – Variance versus covariance
24. Price behaviour – Statistics – Covariance versus correlation
25. Risk analysis
26. Risk-return ratio
27. Risk – Definition
28. The subjectivity of management decisions
29. Risk quantification

A. Examination
B. Certification

❖	Level:	Basic	No prerequisites
❖	Intensity:	45 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:
THE RISK MANAGEMENT ORGANISATION

This course covers how companies setup and operate a risk management function. It includes the basics of performing risk management, such as policies, methodologies and he organisation and infrastructure. The course also covers the application of models and limit structures.

This course covers the following video lessons:

1. Enterprise-wise risk management
2. Central or local setup
3. Tasks
4. Responsibilities
5. Three pillars of effective risk management – Policies
6. Three pillars of effective risk management – Methodologies
7. Three pillars of effective risk management – Organisation & infrastructure
8. Trade & risk management systems – Introduction
9. Trade & risk management systems – Vendor selection
10. Implementation of dynamic risk management – 10 steps
11. Criteria for a risk model – Introduction
12. Criteria for a risk model – Qualitative criteria
13. Criteria for a risk model – Quantitative criteria
14. Criteria for a risk model – Criticism & support
15. Risk model – Modeling
16. Risk model – Calibration
17. Risk model – Choosing the ideal model
18. Model risk – Assumptions
19. Model risk – Fat tails
20. Model risk – Skewness
21. Limit structures – Introduction
22. Limit structures – By trading venues
23. Limit structures – By clearing organisations
24. Limit structures – By firms with a trading function – Introduction
25. Limit structures – By firms with a trading function – Position limit
26. Limit structures – By firms with a trading function – Risk limit
27. Limit structures – By firms with a trading function – Stop-loss limit
28. Limit structures – By firms with a trading function – Limits on Greek parameters
29. Limit structures – By firms with a trading function – Volume limit & Price limit at front office
30. Limit structures – By firms with a trading function – From business activity to limit

A. Examination
B. Certification

❖ Level:	Basic	No prerequisites
❖ Intensity:	75 minutes	Excluding examination
❖ Language:	Voice & text	English
❖ Including:	Examination	Certification upon passing

COURSE:
TRADING & RISK MANAGEMENT SYSTEMS

This course covers the supportive tool 'trading & risk management systems'. It is explained for what reasons the business function (traders) make use of the software, why control functions use the technology, and why support functions use the tool. It is also set out what features a trading and risk management system has.

This course covers the following video lessons:

1. Introduction
2. Motive
3. Cross functional support
4. Various risk tools with different functions
5. Vendor selection

A. Examination
B. Certification

❖ Level:	Basic	No prerequisites
❖ Intensity:	10 minutes	Excluding examination
❖ Language:	Voice & text	English
❖ Including:	Examination	Certification upon passing

COURSE:
EXPOSURES & FINANCIAL PERFORMANCE

This course covers the characteristics of exposures as well as term contract positions. It explains how these two can off-set each other. Hence, it is explained that hedging of an exposure with a term contract position works as long as these two have an opposite risk-reward profile. Attention is also given to the closing of the hedge position, or its settlement.

This course covers the following video lessons:

1. Exposures & hedging
2. Exposure – Physical short – Consumer
3. Exposure – Physical long – Producer
4. Financial performance – Long term contract
5. Financial performance – Short term contract
6. Financial performance – Closing a position
7. Financial performance – Settlement instead of closing

A. Examination
B. Certification

❖ Level:	Basic	No prerequisites
❖ Intensity:	10 minutes	Excluding examination
❖ Language:	Voice & text	English
❖ Including:	Examination	Certification upon passing

COURSE:
VALUE AT RISK

This course provides insight in the concept of risk and explains how it differs from uncertainty. The lessons cover in-depth the quantification of risk by means of various methodologies, both on the level of an individual position and a complex portfolio. Next to value at risk, stress tests are given attention.

This course covers the following video lessons:

1. Dynamic & flexible
2. The meaning of the value at risk
3. 3 value at risk methods – Introduction
4. The parametric approach
5. Linearity versus non-linearity
6. Relevant parameters – Introduction
7. Relevant parameters – Confidence level
8. Relevant parameters – Time horizon
9. Relevant parameters – Typical settings
10. Historical simulation – Introduction
11. Historical simulation – Pros & cons
12. Monte Carlo simulation – Introduction
13. Monte Carlo simulation – Models
14. Monte Carlo simulation – Different probability distributions
15. Monte Carlo simulation – Step-by-step application
16. Monte Carlo simulation – Practical application in Excel
17. Stress testing – Introduction
18. Stress testing – Ways to perform stress tests
19. Stress testing – Worst case performance & worst losing streak
20. Stress testing – Expected shortfall – Introduction
21. Stress testing – Expected shortfall – Example
22. Stress testing – Disadvantages
23. 3 value at risk methods – Advantages & disadvantages – Comparison
24. 3 value at risk methods – Advantages & disadvantages – Listings
25. Calculations – Individual position - 1
26. Calculations – Individual position - 2
27. Calculations – Portfolio – 2 positions
28. Calculations – Correlation coefficients – Impact on VaR
29. Calculations – Correlation coefficients – Limitations
30. Calculations – Portfolio – 3 positions
31. Calculations – VaR versus P&L
32. Calculations – FX exposures
33. Cash flow at risk

A. Examination
B. Certification

❖	Level:	Intermediate	Prerequisites: “Risk & Opportunity” + The Risk Mgt. Organisation”
❖	Intensity:	95 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:
MANDATES & LIMIT STRUCTURES

This course covers how trading mandates are set for traders. Attention is also given to the implementation of limits and the reasons why that is important. It is explained how limits can help to mitigate market risk, counterparty risk and liquidity risk. Attention is also given to the parties that implement these limits, including parties with a trading function, exchanges, clearing organisations and regulations.

This course covers the following video lessons:

1. Introduction
2. Authorisation
3. Limits – Introduction
4. Limits – Limits set by a trading organisation – Introduction
5. Limits – Limits set by a trading organisation – Market risk limits
6. Limits – Limits set by a trading organisation – Stop-loss limit
7. Limits – Limits set by a trading organisation – Limit on Greek variables
8. Limits – Limits set by a trading organisation – Position limits
9. Limits – Limits set by a trading organisation – Credit limits
10. Limit settings in a trading system
11. Limits – Limits set by a trading venue
12. Limits – Limits set by a clearing organisation
13. Limits – Limits set by regulators

A. Examination
B. Certification

❖	Level:	Intermediate	Prerequisites: “Risk & Opportunity” + The Risk Mgt. Organisation”
❖	Intensity:	30 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:
HEDGING STRATEGIES WITH FUTURES

This course contains animation-style videos with narration (and subtitles) which set out how exposures to market risk can be hedged with term contracts, like forwards and futures. Different strategies are given attention by means of comprehensive examples.

This course covers the following video lessons:

1. Tools to hedge
2. Maintain hedge after maturity
3. Rolling a futures position – The concept
4. Rolling a futures position – Practical aspects
5. Rolling a futures position – Roll yield
6. Rolling a futures position – Forward curve structure
7. Rolling a futures position – Rolling a short position
8. Rolling a futures position – Rolling a long position

A. Examination
B. Certification

❖ Level:	Intermediate	Study advice: “Derivatives” + “Futures”
❖ Intensity:	25 minutes	Excluding examination
❖ Language:	Voice & text	English
❖ Including:	Examination	Certification upon passing

COURSE:
HEDGING STRATEGIES WITH SWAPS

This course contains animation-style videos with narration (and subtitles) which set out how exposures to market risk can be hedged with swap contracts. Different strategies are given attention by means of comprehensive examples.

This course covers the following video lessons:

1. Producer & consumer hedges
2. Financial commodity swaps – Swap types & their application
3. Financial commodity swaps – Differential swap
4. Financial commodity swaps – Margin swap
5. Financial commodity swaps – Participation swap
6. Financial gas swaps

A. Examination
B. Certification

❖	Level:	Intermediate	Study advice: “Derivatives”
❖	Intensity:	20 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:
HEDGING STRATEGIES WITH OPTIONS

This course contains animation-style videos with narration (and subtitles) which set out how exposures to market risk can be hedged with option contracts, like call options and put options. Different strategies are given attention by means of comprehensive examples.

This course covers the following video lessons:

1. Tool to speculate or hedge
2. Consumer hedge – Introduction
3. Consumer hedge – Capping at different levels
4. Consumer hedge – Selecting the strike price
5. Producer hedge – Introduction
6. Producer hedge – Flooring at different levels
7. Producer hedge – Selecting the strike price
8. Selection of strike & maturity

A. Examination
B. Certification

❖ Level:	Intermediate	Study advice: “Derivatives” + “Basics of Options”
❖ Intensity:	25 minutes	Excluding examination
❖ Language:	Voice & text	English
❖ Including:	Examination	Certification upon passing

COURSE:
HEDGING STRATEGIES FOR COMMODITY PRODUCERS

This course covers how commodity producers can mitigate market risk. It explains how their exposures can be hedged and what type of instruments can be used for this matter. The applied tools concerns various types of derivatives, namely forwards or futures, options and swaps; all of which are settled in cash.

This course covers the following video lessons:

1. Term contracts
2. European-style put option
3. Asian-style put option
4. Zero-cost collar
5. Put spread
6. 3-way collar
7. Swap on average
8. Floored swap
9. Participation swap
10. Range-out swap

A. Examination
B. Certification

❖	Level:	Advanced	Study advice: “Derivatives” + “Futures” + Swaps” + “Options”
❖	Intensity:	25 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:
HEDGING STRATEGIES FOR COMMODITY CONSUMERS

This course covers how commodity consumers can mitigate market risk. It explains how their exposures can be hedged and what type of instruments can be used for this matter. The applied tools concerns various types of derivatives, namely forwards or futures, options and swaps; all of which are settled in cash.

This course covers the following video lessons:

1. Term contracts
2. European-style call option
3. Asian-style call option
4. Zero-cost collar
5. Call spread
6. 3-way collar
7. Swap on average
8. Capped swap
9. Participation swap
10. Range-out swap

A. Examination
B. Certification

❖	Level:	Advanced	Study advice: “Derivatives” + “Futures” + Swaps” + “Options”
❖	Intensity:	30 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:
FLEXIBILITY IN SUPPLY CONTRACTS – *DYNAMIC HEDGING*

This course sets out what flexibility in commodity & energy portfolios concerns, by giving attention to embedded business decisions in supply contracts and physical capacity. Attention is given to different forms or varieties of flexibility and how this can be seen as optionality.

This course covers the following video lessons:

1. Flexibility in physical assets
2. Flexibility in supply contracts
3. Embedded options
4. Structured contracts
5. Modelling of embedded options
6. Modelling business decisions
7. Supply contract - Take-or-pay
8. Supply contract - Volume flexibility
9. Supply contract - Swing option
10. Supply contract - ACQ & DCQ
11. Supply contract - Click contract - Introduction
12. Supply contract - Click contract - Price cap
13. Supply contract - Click contract - Multiple clicks
14. Supply contract - Validity period of proposal
15. Supply contract - Supplier portfolios full of optionality
16. Supply contract - Volume flexibility - Modelling
17. Supply contract - Volume flexibility_Hedging embedded optionality
18. Supply contract - Volume flexibility_Hedging embedded optionality - Market liquidity
19. Supply contract - Volume flexibility_Hedging embedded optionality - Possible scenarios
20. Supply contract - Volume flexibility_Delta-hedging with term contracts
21. Supply contract - Volume flexibility_Delta-hedging with term contracts - Periodic adjustments
22. Supply contract - Volume flexibility - Delta-hedging with term contracts - Objectivity-subjectivity
23. Supply contract - Swing optionality - Introduction
24. Supply contract - Swing optionality - The value of swing options
25. Supply contract - Swing optionality - Hedging with futures
26. Physical capacity - Input & output
27. Physical capacity - Future margin

A. Examination
B. Certification

❖	Level:	Advanced	Study advice: “Derivatives” + “Futures” + “Options”
❖	Intensity:	90 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing

COURSE:

FLEXIBILITY IN PHYSICAL ASSETS – *ASSET-BACKED TRADING*

This course covers how flexibility in commodity & energy portfolios can be viewed. Based on the real option approach flexibility can be modelled in terms of optionality. It is explained that this is useful for valuation and hedging purposes, plus how this can take place. This course covers the following video lessons:

1. For valuation & hedging purposes
2. Spread option valuation
3. Storage capacity - Hedging the time spread exposure
4. Storage capacity - Time spread option
5. Storage capacity - Hedging call on time spread
6. Storage capacity - Complexity
7. Transport capacity - Hedging the location spread exposure
8. Transport capacity - Location spread option
9. Production & consumption capacity - Margin option
10. Production & consumption capacity - Power plants
11. Production & consumption capacity - Refinery & crusher
12. Hedging spread options versus hedging capacity
13. Liquidating a hedge on an outright position
14. Liquidating a hedge on storage capacity
15. Liquidating a hedge on transport capacity
16. Liquidating a hedge on processing capacity
17. Dynamically hedging an outright option
18. Dynamically hedging a spread option - Strategy
19. Dynamically hedging a spread option - Details
20. Model versus reality - Mismatch of characteristics
21. Model versus reality - Number of options & granularity
22. Model versus reality - Path-dependency
23. Model versus reality - Path-dependency - Forward start option
24. Model versus reality - Path-dependency - Exchange option
25. Model versus reality - Path-dependency - Lookback option
26. Model versus reality - Path-dependency – Barrier option
27. Modelling power generation capacity - Types of capacity
28. Modelling power generation capacity - Gas plant - Cross-commodity options
29. Modelling power generation capacity - Gas plant - Number of options
30. Modelling power generation capacity - Gas plant - Specific characteristics

A. Examination
B. Certification

❖	Level:	Advanced	Study advice: “Derivatives” + “Futures” + “Options”
❖	Intensity:	115 minutes	Excluding examination
❖	Language:	Voice & text	English
❖	Including:	Examination	Certification upon passing