



Subject F207

Banking Applications

Fellowship Applications Syllabus

For the 2023 Examinations

July 2022

The syllabus is up to date with industry developments as at the end of May in the year preceding the publication of the syllabus. However, students attempting F200 subjects should also have knowledge and be aware of topical, relevant and current issues, as these may also feature in the examinations.



Aim

The aim of the Banking Applications subject (F207) is to instil in successful candidates the key principles of banking practice and the application thereof, including governance and strategy setting and the principles of actuarial practice in solving complex problems and to produce coherent advice and recommendations in the management of a banking operation within a specifically South African environment.

Links to other subjects

Subject F107 – Banking Fellowship Principles and Subject F106 – Enterprise Risk Management (ERM) provide the underlying principles upon which this subject is based.

It is assumed that candidates have a good understanding of the principles covered in these subjects, especially Subject F107 (Banking Principles).

It also assumes knowledge of the risk management techniques introduced in Subject A311 – Actuarial Risk Management, as well as the knowledge instilled in most of the A1, A2 and NA subjects.

Objectives

On the successful completion of this subject the candidate will be able to:

1. Demonstrate knowledge and understanding of credit risk management in a banking operation

1. Demonstrate knowledge and understanding of setting a credit risk strategy to reflect a bank's tolerance for risk and expected profitability from various credit risk products.

2. Demonstrate knowledge and understanding of limits that are consistent with a risk appetite statement designed for managing credit risk in a banking operation, including:

- 2.1 Benign credit conditions
- 2.2 Macroeconomic stress conditions

3. Demonstrate knowledge and understanding of the validation of models used to quantify credit risk.

4. Demonstrate knowledge and understanding of the credit risk assessment process in a banking operation, including:

- 4.1 Financial analysis
- 4.2 Loan facilities
- 4.3 Qualitative analysis



5. Demonstrate knowledge and understanding of an asset writing strategy that is consistent with a risk appetite statement to manage credit risk in a banking operation, including:

- 5.1 Credit scores and credit bureau data
- 5.2 Approvals and cut-offs

6. Demonstrate knowledge and an understanding of the credit authorisation process, including designing and implementing a credit policy.

7. Demonstrate knowledge and understanding of the collateral management process.

8. Demonstrate knowledge and understanding of credit portfolio monitoring and control, including:

- 8.1 Credit concentration risk
- 8.2 Early warning indicators

9. Demonstrate knowledge and understanding of mitigating credit risk, including through:

- 9.1 Securitisation
- 9.2 Credit default swaps (CDSs)
- 9.3 Other risk mitigation techniques

10. Demonstrate knowledge and understanding of the workout processes for recovery of losses, including:

- 10.1 Consumer default and debt counselling
- 10.2 Corporate debt restructuring

11. Demonstrate knowledge and understanding of credit risk associated with sectors such as:

- 11.1 Commercial real estate
- 11.2 Leasing
- 11.3 Green finance
- 11.4 Development finance

12. Demonstrate knowledge and understanding of credit risk management under different economic conditions, including:

- 12.1 Risk-based pricing of loans
- 12.2 Impact on net interest margin
- 12.3 Provisions for expected credit losses



2. Demonstrate knowledge and understanding of the management of interest rate risk and market risk in a banking operation

1. Demonstrate knowledge and understanding of trading activities within a bank.
2. Describe the use of derivatives to manage market and interest risk, including:
 - 2.1 Use of derivatives to manage risk
 - 2.2 How central clearing systems work
 - 2.3 Counterparty exposures associated with exchange-traded derivatives
 - 2.4 Counterparty credit risk and credit valuation adjustment (CVA)
 - 2.5 Initial and variation margin
 - 2.6 Derivatives that can/cannot be centrally cleared
 - 2.7 Collateral arrangements and cost of capital
3. Describe accounting and regulatory considerations for interest rate risk management, including:
 - 3.1 Overview of hedge accounting
 - 3.2 Impact and mitigation of not getting hedge accounting treatment
 - 3.3 Regulatory requirements for capital benefit
4. Describe the means of managing interest rate risk in the banking book of a banking operation, including:
 - 4.1 Use of swaps
 - 4.2 Use of repo and other debt instruments
 - 4.3 Use of rolling hedges and regulatory treatment
 - 4.4 Use of management actions and regulatory treatment
5. Describe the management of foreign exchange risk, including:
 - 5.1 The foreign exchange markets and hedging instruments
 - 5.2 Hedging of dividend payments and net asset value of subsidiaries
 - 5.3 Limitations of rolling FX hedges
6. Demonstrate knowledge and understanding on the use of securitisation within a bank, including:
 - 6.1 Use of securitisation to tranche risk and find investors
 - 6.2 Explanation of CDOs and impact of correlation
 - 6.3 Covered bond programmes
7. Demonstrate knowledge and understanding of the management of market risk exposures within staff pension funds, including:
 - 7.1 Hedging of interest rates and inflation
 - 7.2 De-risking of growth assets
 - 7.3 Selling of long-dated and illiquid bank assets to the staff pension fund



8. Demonstrate understanding of how interest rates and markets can react during times of crisis, including:

- 8.1. Flight to quality and impact on correlation
- 8.2 Market behaviour during the financial crisis and during the European Crisis
- 8.3 Impact on market liquidity and basis risk

3. Demonstrate knowledge and understanding of operational risk management in a banking operation

- 1. Demonstrate knowledge and understanding of the assessment of capital that a banking operation should hold for operational risk, including conduct risk.
- 2. Demonstrate knowledge and understanding of the benefits and limitations in using internal models to measure operational risk.
- 3. Describe business continuity and disaster recovery plans in a bank.
- 4. Describe actions that a bank can take to mitigate conduct risk (including mis-selling).
- 5. Describe actions that a bank can take to mitigate information security risk, including the risk of data theft or misuse.
- 6. Describe information technology risks and current approaches to combating cybercrime.
- 7. Describe the risks associated with outsourcing arrangements, and how they can be mitigated.
- 8. Outline the risks associated with the application of machine learning by a banking operation.
- 9. Outline the current approaches to fraud analytics.

4. Demonstrate knowledge and understanding of Treasury activities in a banking operation, including:

- 1. Demonstrate knowledge and understanding of how banks profit by 'borrowing short and lending long', including:
 - 1.1 Why banks take on liquidity risk
 - 1.2 How banks can reduce liquidity risk by matching the term of their lending and their funding
- 2. Demonstrate knowledge and understanding of asset-liability management, the role of the asset-liability committee (ALCO) and Treasury function in a banking operation:
 - 2.1 Demonstrate understanding of the ALCO function and structure



- 2.2 Demonstrate understanding of the Treasury function and structure
- 2.3 Trading and funding policy
- 3. Demonstrate knowledge and understanding of the concept of funds transfer pricing (FTP), including:
 - 3.1 Framework design and economic basis of funds transfer pricing
 - 3.2 Behavioural tenor of deposits, lending facilities and optionality characteristics
- 4. Demonstrate knowledge and understanding of the concept of term liquidity premium (TLP), including:
 - 4.1 Why term liquidity premiums can change quickly
 - 4.2 Example of pricing term liquidity
 - 4.3 Funds transfer pricing curves
 - 4.4 Summary of a logical basis for sound funds transfer pricing
 - 4.5 Differences between retail banking and corporate banking
 - 4.6 Calculating the term liquidity premium
 - 4.7 Difficulties with calculating the term liquidity premium
 - 4.8 Funds transfer pricing curves
- 5. Demonstrate knowledge and understanding of a template funds transfer pricing regime, including:
 - 5.1 Retail banking funds transfer pricing regime
 - 5.1.1 How retail banks manage savings price elasticity
 - 5.1.2 Choosing the correct tenor of behavioural lives for retail banking products
 - 5.2 Corporate banking funds transfer pricing regime
 - 5.3 Wholesale banking funds transfer pricing regime
 - 5.4 Illustration of a funds transfer pricing regime
 - 5.5 Need to distinguish between term funding (term liquidity premium) and interest rate conventions (fixed-variable swap)
- 6. Demonstrate knowledge and understanding of dynamic funds transfer pricing.
- 7. Discuss a case study example.

5. Demonstrate knowledge and understanding of capital management and capital adequacy and of a bank's ICAAP

- 1. Demonstrate knowledge and understanding of the management of capital by a banking operation, including:
 - 1.1 Capital management:
 - 1.1.1 Capital requirements, capital available and capital adequacy
 - 1.1.2 Capital targets
 - 1.1.3 Regulatory capital versus economic capital
 - 1.2 Capital resource management
 - 1.2.1 Capital allocation
 - 1.2.2 Performance metrics



- 1.2.3 Provisions for expected credit losses
- 1.3 Capital management strategy

2. Demonstrate knowledge and understanding of capital adequacy assessment and stress testing, including:

- 2.1 Internal capital adequacy assessment process (ICAAP), including:
 - 2.1.1 Risk register
 - 2.1.2 Risk appetite statement
 - 2.1.4.1 Indicators with triggers, thresholds and limits
 - 2.1.4.2 Credit risk, market risk/IRRBB and operational risk indicators
 - 2.1.4.3 Other risk indicators
 - 2.1.4.4 Capital and liquidity indicators
 - 2.1.3 Base case outlook
 - 2.1.3.1 Expected credit losses under base case outlook
 - 2.1.3.2 Expected credit losses under adverse outlook
 - 2.1.3 Base case assessment
 - 2.1.3.1 Financial forecast, including capital available
 - 2.1.3.2 Pillar 1 minimum capital requirements
 - 2.1.3.3 Pillar 2 additional capital requirements
 - 2.1.3.4 Regulatory capital buffers
 - 2.1.4 Stress test assessments, including:
 - 2.1.4.1 Bank-specific stress scenario
 - 2.1.4.2 System-wide stress scenario
 - 2.1.4.3 Combined stress scenario
 - 2.1.4.4 Reverse stress test
 - 2.1.5 Possible management actions
 - 2.1.6 Capital adequacy under stress scenarios
 - 2.1.7 Quantification of bank-specific capital buffer
- 2.2 ICAAP process guidelines
 - 2.2.1 ICAAP implementation
 - 2.2.2 What makes a good ICAAP?
- 2.3 Principal ICAAP requirements
- 2.4 Documentation requirements

3. Demonstrate knowledge and understanding of the dividend policy.

4. Demonstrate knowledge and understanding of stress testing regulations in the following jurisdictions:

- 4.1 European Union
- 4.2 United Kingdom
- 4.3 United States of America
- 4.4 South Africa

5. Describe and discuss various methods of stress testing, including:

- 5.1 ICAAP stress testing framework worked example



6. Discuss the ICAAP process using a worked example of a presentation, including:

- 6.1 Components of the internal capital assessment
- 6.2 Material integrated risk assessment (MIRA)
 - 6.2.1 Capital treatment of material risks
 - 6.2.2 Pillar 2 add-ons

7. Discuss an internal capital assessment by referring to a case study, including:

- 7.1 Example of quantitative output
- 7.2 Summary of management actions
- 7.3 Assessment of capital buffer

6. Demonstrate knowledge and understanding of liquidity management and liquidity adequacy and of a bank's ILAAP

1. Outline and describe key elements of liquidity risk management, including:

- 1.1 Liquidity risk management
- 1.2 Process to set liquidity risk limits
 - 1.2.1 Loan-to-deposit ratio (LDR)
 - 1.2.2 Short-term wholesale funding reliance
 - 1.2.3 Liquidity reserves
 - 1.2.4 Off-balance sheet commitments
 - 1.2.5 Market lockdown
 - 1.2.6 Funding concentration
 - 1.2.7 Regulatory metrics
 - 1.2.8 Encumbrance ratio
 - 1.2.9 Type A: Type B ratio

2. Demonstrate knowledge and understanding of a bank's internal liquidity adequacy assessment process (ILAAP), including:

- 2.1 Liquidity risk
 - 2.1.1 Liquidity coverage ratio (LCR)
 - 2.1.2 Liquidity risks not captured by LCR
 - 2.1.3 Intraday liquidity risk
 - 2.1.4 Liquid assets buffer
- 2.2 Funding risk
 - 2.2.1 Funding strategy
 - 2.2.2 Risks to stability of funding
 - 2.2.3 Risks to market access
- 2.3 Risk management
 - 2.3.1 Risk appetite
 - 2.3.2 Governance arrangements
 - 2.3.2 Control environment,
 - 2.3.3 Monitoring and reporting, IT systems
- 2.4 Stress testing framework
- 2.5 Liquidity contingency plan



3. Demonstrate knowledge and understanding of scenario analysis and stress testing in liquidity risk management, including:

- 3.1 Importance of scenario testing for understanding liquidity risk
- 3.2 Liquidity stress testing policy approach
- 3.3 Governance aspects relating to stress testing
- 3.4 Stress test reports

4. Demonstrate knowledge and understanding of regulatory requirements for an ILAAP submission, including in:

- 4.1 European Union
- 4.2 United Kingdom
- 4.3 United States of America
- 4.4 South Africa

7. Demonstrate knowledge and understanding of corporate governance issues relating to a banking operation, including:

1. Demonstrate knowledge and understanding of principles of sound corporate governance in a banking operation.

2. Demonstrate knowledge and understanding of factors influencing the shape of corporate governance structures in a banking operation.

3. Discuss the three lines of defence model, as widely used in banking operations.

4. Describe a typical corporate governance structure in a banking operation, including:

- 4.1 Board
 - 4.1.1 Board of directors, roles and responsibilities
 - 4.1.2 Executive and non-executive directors (NEDs)
 - 4.1.3 Board skills and knowledge
- 4.2 Management
 - 4.2.1 Executive committee, roles and responsibilities
 - 4.2.2 Board versus management responsibilities
 - 4.2.3 Control functions e.g. Finance, Risk, Compliance, Internal Audit
- 4.3 Governance-related committees
 - 4.3.1 Audit committee
 - 4.3.2 Risk committee
 - 4.3.3 Remuneration committee
 - 4.3.4 Credit risk committee
 - 4.3.5 Asset-liability committee (ALCO)
 - 4.3.6 Model validation committee
 - 4.3.7 IT committee



5. Discuss engagement with and reporting to key external stakeholders in a banking operation, including:

- 5.1 Shareholders
- 5.2 Regulators

6. Demonstrate knowledge and understanding of model risk governance in a banking operation, including:

- 6.1 Model risk and why it is important
- 6.2 Model lifecycle
- 6.3 Model inventory
- 6.4 Model risk appetite
- 6.5 Governance of AI models

7. Discuss the provision of management information and its escalation to the executive committee and the board.

8. Discuss the governance arrangements for setting provisions for expected credit losses under IFRS 9.

9. Discuss the role of corporate governance in past banking failures, including in the banking crisis of 2007-08.

10. Demonstrate knowledge and understanding of issues that may arise for actuaries in banking, including:

- 10.1 Communications (oral and written)
- 10.2 Potential conflicts of interest
- 10.3 Constructive challenge
- 10.4 Speaking up

8. Demonstrate knowledge and understanding of the strategy setting and implementation process of a banking operation

1. Describe and discuss the strategic planning process, including:

- 1.1 Considerations in the development of the strategy
 - 1.1.1 Stakeholders expectations
 - 1.1.2 The macro (economic) and micro (market and market segment) environment
 - 1.1.3 The competitive landscape
 - 1.1.4 Internal "core competencies"/competitive advantage
 - 1.1.5 Adequacy of internal resources
 - 1.1.6 Appropriateness of organisational structure
 - 1.1.7 Adequacy of capital, liquidity and funding
 - 1.1.8 Consistency of strategy with risk appetite
 - 1.1.9 Outline financial plan, next three to five years



2. Demonstrate knowledge and understanding of the business model and strategic plan of a banking operation, including:

- 2.1 Universal strategic objectives
- 2.2 Bank strategy objectives and metrics
- 2.3 Bank strategy setting process
- 2.4 Sustainable banking through the business cycle
- 2.5 Capital management as part of the strategic plan
- 2.6 Typical objectives of a bank's strategic plan
 - 2.6.1 Bank objectives
 - 2.6.2 Financial initiatives to achieve bank objectives
 - 2.6.3 Financial targets and metrics (KPIs)
- 2.7 Strategy as a dynamic process
- 2.8 Evaluation of the strategic plan

3. Demonstrate knowledge and understanding of the assessment of possible acquisitions and disposals by a banking operation, including:

- 3.1 Strategic assessment
- 3.2 Financial assessment

4. Demonstrate knowledge and understanding of current strategic issues in banking, including:

- 4.1 Potential for disruptive innovation by non-banks and new banks
- 4.2 IT capabilities: Legacy systems versus new technologies
- 4.3 Potential impact of climate change (bank, customers)
- 4.4 Fair pricing of retail financial products
- 4.5 Potential impact of long-term low interest rates
- 4.6 Banks' responses to the Covid-19 pandemic

9. Solve problems associated with the following issues:

1. Demonstrate knowledge and understanding of banking problems and how they can be addressed, including:

- 1.1 Credit risk measurement and management
- 1.2 Operational risk measurement and management
- 1.3 Liquidity risk management
- 1.4 Interest rate risk measurement and management
- 1.5 Market risk measurement and management
- 1.6 Funding policy and strategy
- 1.7 Capital allocation and management, including ICAAP
- 1.8 Risk (capital adequacy, liquidity, leverage, credit, operational, market) and balance sheet management
- 1.9 Risk adjusted performance measurement
- 1.10 Business development strategy and process
- 1.11 Pricing strategy and process
- 1.12 Investment banking and corporate finance activities
- 1.13 Corporate banking activities



- 1.14 Retail banking activities
- 1.15 Corporate governance
- 1.16 Overall organisational structure

2. Through analysis, integration and critically evaluating results, draw conclusions and make recommendations particularly with regard to the bank's optimal strategy.

3. Analyse various case studies and solve complex problems associated with the cases.

End of Syllabus

