# Banking Education Toolkit

***June 2019***

## Introduction

This Banking Education Toolkit has been developed by the Banking Education Interest Group which reports back to the IAA Education Committee and the IAA Banking Working Group. It has been prepared in response to the development of Banking as an emerging practice area for actuaries globally and sets out a guideline curriculum of topics that may be included in a banking education program. This education toolkit has been developed as a result of recognising that different jurisdictions are at different stages of development of banking as a practice area and that guidance on education and continuous professional development issues could be useful to facilitate the further development of actuarial banking education in different jurisdictions.

This document is available to organizations interested in developing education on banking, should they wish to use it as a template. IAA member associations are not required to adopt or comply with this toolkit. The content of this document is not binding on any individual actuary. The views expressed in this document are not necessarily the views of the IAA.

## Aim

The aim of the this Banking Education Toolkit is to guide potential users within the global actuarial community in learning and understanding the key principles of banking practice and the application thereof within a banking organisation, including risk management, capital management, governance and strategy setting, and the principles of actuarial practice in solving complex problems in banking and to produce coherent advice and recommendations in the management of a banking operation within their local jurisdictions, whilst appreciating current and emerging common issues and possible variations in global banking practice. Individual actuarial associations may use this education toolkit as guidance and toolkit in developing their own local banking curriculums. The list of topics is quite extensive, and should be adapted to meet local needs, and therefore should be treated flexibly in terms of which topics could be omitted, and which may need to be added to be relevant to a local environment.

## Prerequisite knowledge

These topics assume knowledge of many of the statistical, mathematical, economics, investment, finance, actuarial models, data analytics and risk management techniques introduced in core actuarial subjects relevant in the users' jurisdictions, as defined by the IAA syllabus approved by the IAA Council in 2017 which provides a core base of common knowledge expected of actuaries globally.

The Enterprise Risk Management (ERM) global syllabus used by the CERA organisation does provide some additional underlying principles upon which these topics build on.

# Banking Education Toolkit

## Guideline Curriculum

The following topics are suggested as useful coverage for a comprehensive actuarial education program in banking.

### 1. Demonstrate knowledge and understanding of the operations of a banking institution

1. Discuss the role of banking institutions in economies:

   1.1 To facilitate loan-deposit transformation
   1.2 To facilitate investments by firms and to enable growth and job creation
   1.3 To facilitate local and international trade

2. Describe the different types of banks, including:

   2.1 Central banks/reserve banks
   2.2 Lending banks funded by customer deposits
   2.3 Lending banks funded by wholesale deposits
   2.4 Investment banks
   2.5 Universal banks
   2.6 Community banks/Mutual banks
   2.7 Development banks

3. Describe the various activities carried out by banks, including:

   3.1 Retail banking activities and various products offered
   3.2 Corporate banking activities and various products offered
   3.3 Investment banking activities and various products offered
   3.4 Understanding features and pricing of banking products

4. Demonstrate an understanding and knowledge of a bank's sources of revenue, including:

   4.1 Net interest income from banking book operations
   4.2 Non-interest income from banking book operations
   4.3 Trading income from trading book operations

5. Demonstrate an understanding and knowledge of a bank's cost base, including:

   5.1 Operational expenses
   5.2 Cost of credit
   5.3 Cost of capital
   5.4 Tax

6. Demonstrate an understanding of a bank's financial statements, including:

   6.1 Bank income statement/profit and loss account and components

6.2 Bank balance sheet and components
6.3 Financial ratios, including net interest margin, cost-income ratio and return on equity
6.4 Accounting for impairments including under IFRS9
6.5 Fair value accounting

7. State and define the main types of capital that must be held by a bank, including:

   7.1 Capital requirements based on risk-weighted assets
   7.2 Regulatory capital, including Tier I and Tier II
   7.3 Economic capital requirements
   7.4 Available capital or book capital
   7.5 Treatment of minority interests
   7.6 Treatment of pension funds

8. Outline the various sources of funds that banks use to fund their operations, including:

   8.1 Deposit taking
   8.2 Wholesale markets funding
   8.3 Central bank funding
   8.4 Tier I capital: shareholder equity that is not obliged to be repaid
   8.5 Tier II capital: other capital that is obliged to be repaid

9. State and define the main types of financial and non-financial risks faced by a bank, including:

   9.1 Capital risk
   9.2 Liquidity risk
   9.3 Credit risk
   9.4 Market risk
   9.5 Operational risk
   9.6 Counterparty credit risk
   9.7 Credit concentration risk (including country risk)
   9.8 Interest rate risk in the banking book
   9.9 Pension obligation risk
   9.10 Pre-payment risk
   9.11 Reinvestment risk
   9.12 Residual risk
   9.13 Equity risk/Investment risk
   9.14 Model risk
   9.15 Business risk
   9.16 Currency risk
   9.17 Regulatory risk
   9.18 Cybercrime and fraud risk
   9.19 Political risks
   9.20 Technology risks

**2. Demonstrate knowledge and understanding of the regulatory framework within which a typical bank's governance structure must operate, including the evolution of the Basel regulations.**

1. Describe a typical corporate governance structure of a banking operation, including:

   1.1 Board of directors, board committees, roles and responsibilities
   1.2 The executive committee and senior management, roles and responsibilities
   1.3 Various committees existing within a bank and their roles and responsibilities, including:
   - 1.3.1 Board of directors
   - 1.3.2 Group audit committee
   - 1.3.3 Credit risk committee
   - 1.3.4 Asset-liability committee / Treasury committee
   - 1.3.5 Model validation committee
   - 1.3.6 Remuneration committee
   - 1.3.7 Nominations committee

2. Outline the key elements of the Basel I framework and perceived shortcomings of the Basel I Accord.

3. Show an understanding of the Basel II framework and discuss the implications of Basel II for banking operations, including:

   3.1 Pillar I: Minimum capital requirements (rules-based)
   3.2 Pillar II: Supervisory review process (non-rules based) including the Internal Capital Adequacy Assessment Process (ICAAP)
   3.3 Pillar III: Market review (public disclosure)

4. Show an understanding of the Basel III framework and discuss the Implications of Basel III for banking operations, including:

   - 4.1.1 New definition of Tier I and Tier II capital
   - 4.1.2 Capital ratios and capital buffers as percentages of Pillar 1 risk weighted assets
   - 4.1.3 Minimum capital ratios, Tier I and total (Tier I and Tier II)
   - 4.1.4 Capital conservation buffer
   - 4.1.5 Countercyclical capital buffer
   - 4.1.6 Additional buffer for domestic systemically important banks (D-SIBS)
   - 4.1.7 Liquidity coverage ratio (LCR)
   - 4.1.8 Net stable funding ratio (NSFR) (long-term structural ratio)

5. Outline the roles of central/reserve banks in managing and regulating banking operations

6. Evolution of the Basel regulations:

   6.1 Basel 1 (1988)

6.2 Basel II (2007 – 2008)
6.3 Basel III (2010-2017)
6.4 An Introduction to Basel IV

7. Three pillars within Basel regulations:

   7.1 Pillar 1 (minimum capital)
   7.2 Pillar 2 (supervision)
   7.3 Pillar 3 (market discipline)

8. Show an understanding of the various local and international legislation, guidance notes and accounting standards under which banks operate, including:

   8.1 Legislation governing companies
   8.2 Legislation governing banks
   8.3 Directives and guidance notes issued by the Basel Committee for Banking Supervision (BCBS), central/reserve banks and other local and international regulatory bodies
   8.4 Local and International Accounting Standards

**3. Demonstrate knowledge and understanding of the role of risk management in a banking operation**

1. Discuss the role of high level risk management in a banking operation

2. Discuss the impact on banking operations of an aggregation of risk, including:

   2.1 Diversification
   2.2 Concentration
   2.3 Correlation

3. Explain and discuss the process of controlling risks in a banking operation, including by:

   3.1 Setting loan sanctioning criteria
   3.2 Setting risk appetite, tolerance and limits
   3.3 Allocation of risk based capital

4. Demonstrate how risk modelling may be used to identify and measure the different types of risks in a banking operation, including:

   4.1 Frequency and severity modelling for both credit and operational risk
   4.2 Statistical modelling for portfolio management
   4.3 Survival models for credit risk management
   4.4 Market implied probability of default and survival curves
      4.4.1 Default and survival curves
      4.4.2 Closed form analytical approximations vs Monte Carlo simulation

4.5 Asset-liability modelling for balance sheet management and the Asset-Liability Committee (ALCO)
4.6 Control cycle for all models
4.7 Cash-flow models for budgeting and balance sheet management

5. Demonstrate an understanding of how risks in a banking operation may be mitigated and/or managed, including:

   5.1 Positions
   5.2 Credit hedging
   5.3 Securitisation

**4. Demonstrate knowledge and understanding of the credit risk measurement framework in a banking operation**

1. Describe and explain the credit risk measurement process for banking book exposures, including:

   1.1 Qualitative factors: retail and non-retail exposures
      1.1.1 Retail
      1.1.2 Non-retail
   1.2 Internal ratings
      1.2.1 Pricing, provisioning and capital management
      1.2.2 Retail, non-retail, and specialised lending exposures
      1.2.3 Consistency: internal ratings and external credit rating agencies
   1.3 Counterparty risk parameters
      1.3.1 Counterparty risk parameters for non-defaulted assets
         - Probability of default (PD)
         - Expected loss given default (ELGD or LGD)
         - Expected exposure at default (EAD)
      1.3.2 Impairment versus default
      1.3.3 Impaired assets
      1.3.4 Counterparty risk parameters for defaulted assets
   1.4 Default events and measures (Retail and Non-retail)
      1.4.1 Default events and measures: specialised lending
      1.4.2 Default events and measures: cross-border lending
   1.5 Product credit risk measurement
      1.5.1 Retail banking products
      1.5.2 Corporate banking products
      1.5.3 Investment banking products
   1.6 Credit risk terminology
      1.6.1 Lending exposure (legal entity)
      1.6.2 Group entity (obligor)
      1.6.3 Facilities / Accounts (transactions) – draw down profile
      1.6.4 Collateral
      1.6.5 Guarantees – parent, director, corporate, sovereign
      1.6.6 On-balance-sheet netting
      1.6.7 Derivatives and hedging
   1.7 Prudential standards: parameters and models

1.7.1 Standardised approach
1.7.2 Internal ratings-based (IRB) approaches:
- Foundation IRB (F-IRB) approach
- Advanced IRB (A-IRB) approach
1.7.3 Asset classes to which F-IRB/A-IRB may be applied

1.8 Model development
1.8.1 Probability of default models
1.8.2 Loss given default models
1.8.3 Exposure at default models
1.9 Risk monitoring and model validation
1.9.1 Risk appetite statement
1.9.2 Credit risk appetite

2. Describe and explain trading book credit exposures gained through over-the- counter (OTC) contracts, including:

2.1 Swaps and exotic exposures
2.2 Potential future exposures and regulatory add-ons
2.3 Netting
2.4 Basel III treatment of OTC exposures
2.5 Credit Valuation Adjustment (CVA) risk

**5. Demonstrate knowledge and understanding of the credit risk management framework in a banking operation**

1. Demonstrate an understanding of organisational structures in banking operations designed to manage credit risk

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

2.1 Credit scores and credit bureaus
2.2 Approvals and cut-offs
2.3 Secured and unsecured lending for retail banking
2.4 Loan-to-value ratios

3. Demonstrate an understanding of triggers, thresholds and limits that are consistent with a risk appetite statement designed for managing credit risk in a banking operation

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 Credit ratings within a corporate banking environment
4.4 Collateral acceptable for secured loans in corporate banking

5. Demonstrate knowledge and an understanding of risk-adjusted loan pricing and facilities, including the basics of loan pricing

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

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

8. Demonstrate knowledge and an understanding of credit portfolio monitoring and control

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

   9.1 Consumer default and debt counselling
   9.2 Corporate debt restructuring

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

1. Describe and discuss market risk and market risk management, including:

   1.1 Market risk definition
   1.2 Value at Risk (VaR)
   1.3 Market and systemic risk and funding
   1.4 Hedging: tools, strategy and risks
      1.4.1 Forward rate agreements
      1.4.2 Futures
      1.4.3 Overnight index swaps
      1.4.4 Options
   1.5 Trading and funding policy
   1.6 Proprietary trading

2. Describe and discuss the measurement and management of interest rate risk profile in a banking operation, including:

   2.1 Interest rate risk
      2.1.1 Forms of interest rate risk
      2.1.2 Yield curves
   2.2 Basis risk
   2.3 Behavioural maturities, for deposits and loans with no fixed maturity dates
   2.4 Benchmarks
   2.5 Risk measurement and sensitivity
   2.6 Interest rate risk policy – The asset-liability committee (ALCO)

**7. Demonstrate knowledge and understanding of the operational risk measurement and management framework in a banking operation**

1. Demonstrate an understanding of operational risk within a banking environment, including conduct risk

   1.1 Loss event type classification

2. Demonstrate an understanding of current market observations and trends in measuring operational risk, including:

   2.1 Operational risk measurement concepts
      2.1.1 Loss definition
      2.1.2 Amount of losses, by type
      2.1.3 Dates of losses, by type
      2.1.4 Grouping of loss events
      2.1.5 Model granularity, model validation and monitoring
      2.1.6 Distribution assumptions
      2.1.7 Correlation and dependence
      2.1.8 Data integration

3. Demonstrate knowledge and understanding of the standardised basic indicator approach (BIA) to operational risk measurement

4. Demonstrate knowledge and understanding of the Advanced Measurement Approach (AMA) to operational risk measurement, including:

   4.1 Loss Distribution Approach (LDA)
      4.1.1 Qualitative input and model validation
      4.1.2 Key risk indicators

5. Demonstrate knowledge and understanding of the new standardized approach for operational risk set out in the reforms to Basel III

6. Demonstrate knowledge and understanding of operational risk associated with outsourcing arrangements, and how it may be mitigated.

7. Demonstrate knowledge and understanding of the operational risk management framework

8. Demonstrate knowledge and understanding of operational risk capital allocation

9. Demonstrate knowledge and understanding of the current approaches to fraud analytics

**8. Demonstrate knowledge and understanding of the liquidity risk management framework and process in a banking operation**

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

   1.1 Defining liquidity

1.2 Sources of liquidity
1.3 Treasury function
1.4 Liquidity risk management
1.5 Liquidity risk metrics
  1.5.1 Loan-to-deposit ratio (LTD)
  1.5.2 1-week and 1-month liquidity ratios
  1.5.3 Cumulative liquidity model
  1.5.4 Liquidity risk factor
  1.5.5 Concentration report and funding source report
  1.5.6 Inter-entity lending report
1.6 Process to set liquidity risk limits
  1.6.1 Loan-to-deposit ratio (LDR)
  1.6.2 Short-term wholesale funding reliance
  1.6.3 Liquidity reserves
  1.6.4 Off-balance-sheet commitments
  1.6.5 Market lockout
  1.6.6 Funding concentration
  1.6.7 Regulatory metrics
  1.6.8 Encumbrance ratio
  1.6.9 Type A: Type B ratio
1.7 Internal funds pricing mechanism, including setting the bank policy standard
1.8 Liquidity contingency funding plan
1.9 Stock of liquid assets

2. Describe the process of modelling cash inflows and outflows in liquidity risk management, including:

   2.1 Measuring contractual maturity gaps
   2.2 Modelling behaviour of demand deposits
   2.3 Modelling pre-payment behaviour
   2.4 Modelling behaviour of contingency funding obligations

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

**9. Demonstrate knowledge and understanding of the liquidity risk management framework and process in a banking operation**

1. Discuss ascertaining behavioural tenor, including:

   1.1 Deposits behavioural tenor
   1.2 Behaviouralisation exercise

2. Discuss Basel III liquidity risk metrics, including:

   2.1 Overview of Basel III liquidity risk framework

2.2 Liquidity coverage ratio (LCR)
   2.2.1 Assumptions on liabilities outflow
   2.2.2 High quality liquid assets (HQLA)
   2.2.3 Sample stressed outflow report
   2.2.4 Example outflow assumptions
   2.2.5 Example LCR calculation
   2.2.6 Factors which determine the liquidity value of deposits
   2.2.7 LCR and liabilities strategy
   2.2.8 Deposits analysis template

2.3 Net stable funding ratio (NSFR)
   2.3.1 Understanding the calculation
   2.3.2 Addressing NSFR compliance

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

   3.1 Liquidity stress testing policy approach
   3.2 Governance aspects relating to liquidity risk

4. Demonstrate knowledge and understanding of stress test reports

5. Demonstrate knowledge and understanding of the Individual Liquidity Adequacy Assessment (ILAA) framework, including:

   5.1 ILAA stress testing framework
   5.2 Additional reporting requirements in the UK

6. Demonstrate knowledge and understanding of local regulatory reporting requirements

7. Demonstrate knowledge and understanding of the liquid asset buffer, including:

   7.1 Liquid asset buffer (LAB) principles
   7.2 Risk appetite statement and LAB minimum size

**10. Demonstrate knowledge and understanding of the liquidity risk management framework and process in a banking operation**

1. Demonstrate knowledge and understanding of the concept of bank internal funds transfer pricing, including:

   1.1 Framework design and economic basis of funds transfer pricing (FTP)
   1.2 Behavioural tenor of deposits, lending facilities and other optionality characteristics

2. Demonstrate knowledge and understanding of the concept of pricing term liquidity, including:

2.1 Example of pricing term liquidity
2.2 Funds Transfer Pricing (FTP) curves
2.3 Summary of the logical basis for sound FTP

3. Describe and discuss the process of calculating the term liquidity premium:

   3.1 Calculation
   3.2 Difficulties with calculating the TLP
   3.3 FTP curves

4. Demonstrate knowledge and understanding of template FTP regime, including:

   4.1 Retail bank FTP regime
   4.2 Corporate bank FTP regime
   4.3 Wholesale bank FTP regime
   4.4 Illustration

5. Demonstrate knowledge and understanding of dynamic FTP

6. Discuss a case study example

7. Demonstrate knowledge and understanding of treasury allocation and FTP

8. Understanding the principles behind statutory costs that include Cash Reserve Ratio (CRR) and High-Quality Liquid Assets (HQLA) within FTP

**11. Demonstrate knowledge and understanding of bank capital management framework**

1. Demonstrate knowledge and understanding of the banking model and capital, including:

   1.1 Understanding the difference between capital and liquidity
   1.2 Bank balance sheet
   1.3 Capital to cover possible losses
   1.4 Expected and unexpected losses
   1.5 Capital regulation

2. Discuss key capital considerations, including:

   2.1 Regulatory minimum capital requirements (risk-weighted assets)
   2.2 Regulatory minimum leverage ratio (unweighted assets)
   2.3 Capital ratio, based on risk-weighted assets
      2.3.1 Total capital ratio
      2.3.2 CET1 capital ratio
   2.4 Credit rating considerations

3. Demonstrate knowledge and understanding of capital management policy, including:

3.1 Capital management
- Capital targets
- Business restructuring
- Business line profit

3.2 Capital resource management
- Capital allocation
- Performance metrics
- Portfolio credit risk management

3.3 Capital management strategy

4. Demonstrate knowledge and understanding of a bank's typical internal capital adequacy assessment process (ICAAP)

4.1 Overview of strategy and business plan
4.2 Financial forecasts for next five years (under IFRS9, if applicable)
4.2.1 Balance sheet
4.2.2 Income statement/Profit and loss account
4.3 Risk register (for all risks faced by a bank)
4.4 Risk appetite statement (for principal risks)
4.5 Risk management framework and risk governance
4.6 Pillar 1 capital requirements
4.7 Pillar 2 capital requirements
4.8 Capital buffers
4.9 Capital adequacy
4.10 Approval by Board

5. Risk appetite statement

5.1 Indicators of each category of risk
5.2 Triggers, thresholds and limits of each indicator
5.3 Escalation and decision making process

6. Pillar 1 capital requirements

6.1 Credit risk, market risk and operational risk
6.2 Standardised approach
6.3 Foundation internal ratings–based approach (F-IRB), where permitted
6.4 Advanced internal ratings-based approach (A-IRB), where permitted
6.5 Output floor

7. Pillar 2 capital requirements

7.1 Capital add-ons for bank-specific risks versus average bank risks
7.1.1 Additional credit risk
7.1.2 Additional market risk
7.1.3 Additional operational risk
7.2 Capital for risks not assessed under Pillar 1
7.2.1 Counterparty credit risk/CVA risk

- 7.2.2 Credit concentration risk
- 7.2.3 Interest rate risk in the banking book
- 7.2.4 Pension obligation risk

8. Capital Buffers

    8.1 Regulatory capital buffers
    - 8.1.1 Capital conservation buffer
    - 8.1.2 Countercyclical capital buffer
    - 8.1.3 Buffer for systemically important banks

    8.2 Capital buffer determined by stress testing
    - 8.2.1 Systemic (market-wide) stress scenario
    - 8.2.2 Idiosyncratic (bank-specific) stress scenario
    - 8.2.3 Combined stress scenario
    - 8.2.4 Management actions (must be achievable under stress conditions)

    8.3 Greater of capital buffer determined by stress testing and capital conservation buffer

9. Capital Adequacy

    9.1 Capital ratio less (Pillar 1 + Pillar 2 capital requirements)
    9.2 Capital ratio less (Pillar 1 + Pillar 2 capital requirements + capital buffers)

10. Discuss an ICAAP by reference to a case study, including:

    - 10.1 Quantification of Pillar 1 capital requirements
    - 10.2 Quantification of Pillar 2 capital requirements
    - 10.3 Quantification of capital buffer determined by stress testing
    - 10.4 Management actions under stress scenarios
    - 10.5 Capital adequacy

11. Demonstrate knowledge and understanding of a bank's dividend policy and its remuneration policy, and their implications for capital management

12. Demonstrate knowledge and understanding of a reverse stress test

13. Demonstrate knowledge and undemanding of a bank's Recovery Plan

**12. Demonstrate knowledge and understanding of a typical corporate governance structure for a commercial banking organisation**

1. Demonstrate knowledge and understanding of principles of sound corporate governance within banking

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

3. Discuss who the key role players are in a typical governance structure, including:

   3.1 Shareholders
   3.2 Regulators
   3.3 The board
   3.4 Management

4. Demonstrate knowledge and understanding of board and management governance structures, including:

   4.1 Board
      4.1.1 Role of Chair
      4.1.2 Executive and non-executive directors (NEDs)
      4.1.3 Skills and knowledge of NEDs
   4.2 Board committees
      4.2.1 Group audit committee
      4.2.2 Group risk committee
      4.2.3 Remuneration committee
      4.2.4 Nominations committee
   4.3 Management
      4.3.1 Management committees
      4.3.2 Internal audit
      4.3.3 Compliance
      4.3.4 Other control functions

5. Demonstrate knowledge and understanding of Asset Liability Committee (ALCO) mandate and structure

6. Discuss the role of corporate governance in banking failures

**13. Demonstrate knowledge and understanding of bank strategy setting and implementation process**

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

    1.1 Considerations in the development of strategy
    - 1.1.1 Stakeholder 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
        - 1.1.5.1 IT and infrastructure
        - 1.1.5.2 Control functions
        - 1.1.5.3 Capital and liquidity
    - 1.1.6 Organisational structure
    - 1.1.7 Capital and funding
    - 1.1.8 Risk appetite

2. Demonstrate knowledge and understanding of strategy and the bank business model, including:

    2.1 Outlook
    - 2.1.1 Economic
    - 2.1.2 Competition in relevant markets

    2.2 Business strategy
    - 2.2.1 Strategy for each principal business unit
    - 2.2.2 Forecast business volumes and pricing

    2.3 Ability to support business strategy
    - 2.3.1 IT and infrastructure
    - 2.3.2 Control functions

    2.4 Financial forecasts for next five years
    - 2.4.1 Implications for capital over five years
    - 2.4.2 Implications for liquidity over five years

    2.5 Considerations of strategy and business plan
    - 2.5.1 Risks and dependencies
    - 2.5.2 Sensitivities/Alternative strategies

    2.6 Possible acquisitions/disposals
    - 2.6.1 Identification and evaluation of possible acquisitions
    - 2.6.2 Identification and evaluation of possible disposals

    2.7 Approval of strategy and business plan
    - 2.7.1 Approval by Board
    - 2.7.2 Submission to regulator(s)

3. Discuss the implementation of a bank’s strategy and business plan and subsequent monitoring

    3.1 Implementation
    - 3.1.1 Set objectives and KPIs for each business unit and group function

3.1.2 Identify key risks and dependencies

3.2 Monitoring

3.2.1 Process for monitoring progress towards achieving objectives/KPIs

3.2.2 RAG reporting of progress, with details for red items

3.3 Reporting

3.3.1 Report progress to management and Board monthly

3.3.2 Highlight any significant problems in implementation

3.3.3 If necessary or appropriate, propose amendments to approved strategy

3.3.4 Report matters to regulator(s) when appropriate

4. Discuss how to evaluate a bank's strategy and business plan

**14. Complex problem solving**

1. Solve complex problems associated with the following issues:

1.1 Credit risk measurement and management
1.2 Market risk measurement and management
1.3 Operational risk measurement and management
1.4 Counterparty credit risk/CVA risk measurement and management
1.5 Credit concentration risk measurement and management
1.6 Interest rate risk in the banking book measurement and management
1.7 Liquidity risk measurement and management
1.8 Funding policy and strategy
1.9 Risk management (capital adequacy, liquidity and funding, credit, market, operational and others) and balance sheet management
1.10 Risk-adjusted performance measurement
1.11 Capital allocation and management, including ICAAP
1.12 Business development and strategy process
1.13 Pricing strategy and process
1.14 Retail banking activities
1.15 Corporate banking activities
1.16 Investment banking and corporate finance activities
1.17 Specialised finance including real estate finance, renewable energy finance, aviation finance, mining finance, agriculture finance, and other projects and infrastructure finance that includes roads, ports, airports and railways.
1.18 Corporate governance
1.19 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 them.

**End of Guideline Curriculum**

# Banking Education Toolkit

## Annexure: Reading List

1. Basel Committee on Banking Supervision
   1.1 Basel III: A global regulatory framework for more resilient banks and banking systems, December 2010 (revised June 2011)
   1.2 Finalising Basel III in brief, January 2018
   1.3 High-level summary of Basel III reforms, December 2017
   1.4 Framework for internal control systems in banking organisations, September 1998

2. Financial Stability Board

   2.1 Thematic Review on Risk Governance, February 2013

3. UK: Prudential Regulation Authority (PRA)

   3.1 Corporate governance: Board responsibilities, March 2016
   3.2 The PRA's methodologies for setting Pillar 2 capital, December 2017
   3.3 The Bank of England's approach to stress testing the UK banking system, October 2015
   3.4 The Internal Capital Adequacy Assessment Process (ICAAP) and the Supervisory Review and Evaluation Process (SREP), December 2017
   3.5 The PRA's approach to supervising liquidity and funding risks, December 2016

   *The reading list is not exhaustive. Different jurisdictions may have equivalent banking related papers that they may consult.*