LIFE INSURANCE (30 hours)

1. Actuarial control cycle

- Basic principles
- Application

2. Principles of life insurance

- Basic contract types
  - Benefits and risks
  - With profit (participating)
  - Without profit (non-participating)
  - Endowment assurances
  - Fixed term contracts
  - Whole life aasurances
  - Term assurance
  - Convertible or renewable term assurance contracts
  - Immediate annuity contracts
  - Deferred annuity contracts
  - Long term sickness insurance contracts
  - Critical illness contracts
  - Long term care contracts
  - Unit-linked contracts
  - Index-linked contracts
- Methods of distributing profits
  - Additions to benefits
  - Regular reversionary bonuses
  - Special reversionary bonuses
  - Accumulating with profit regular bonuses
  - Terminal bonuses
  - “Revalorisation” method
  - Contirbution method dividends
  - The sources of surplus
  - Profit distribution and its effect
- Life insurance market (the effect of different distribution channels, the effect of the regulatory and fiscal regimes)
  - Distribution channels
  - Regulatory and fiscal regimes

3. Risk and uncertainty in life insurance

- List of risks
- Policy and other data
- Mortality, critical illness and sickness rates
- Investment performance
- Expenses, including the effect of inflation
- Withdrawals
- New business

- Volume of new business
- Guarantees and options
- Competition
- The management of the company
- Reinsurance arrangements
- Reducement and control of negative effects

4. Data and its verification

- Quality, quantity and use of data
- Data needed
- Checks of policy data

5. Determination of product design and setting actuarial assumptions

- Product design
  - Suitability of certain design
- Setting of actuarial assumptions
  - Principles of setting assumptions
  - Assumptions

6. Pricing and valuation of life insurance contracts

- Pricing
  - Assumptions
  - Financial guarantees
  - Mortality options
  - Formula approach
  - Basis
  - Emerging costs approach
- Valuation of life insurance contracts
  - Asset valuation techniques
  - The principles and methods of setting supervisory reserves
  - Reserving vs pricing assumptions
  - Sensitivity analisys
  - Methods of setting reserve
  - Earned asset share

7. Surrenders and policy alterations

- Terms for surrender
- Calculation methods
- Policy alterations including paid-up policy
- Limiting conditions and constraints
- Calculation methods
- Underwiting needs

8. The principles of investment and asset - liability matching

- The principles of investment
- Absolute matching
- Immunization
- Asset - liability matching

- The analisys of performance of different investment strategies
- Stochastic investment models

9. Solvency

- The reasons for projecting solvency
- Assessing solvency
- The need for capital and the role of the estate

10. Reinsurance and underwriting

- Reinsurance
  - General principles
  - The main types of reinsurance contracts
  - Specifying the amount to be reinsured
  - Facultative and treaty
- Underwriting
  - The process
  - Specification of terms
  - Group insurances and free cover

11. Analysis of experience

- Analisys of mortality, expenses, investment return
  - Mortality experience, critical illnesses and sickness experience
  - Withdrawal experience
  - Expense experience
  - Investment experience
- The analysis of surplus / profit
  - Profitability of existing business
  - Realistic determinating of emerging of profits
  - Methods
  - The main sources of surplus

12. Value of life insurance company

- Appriasal value
- Embedded value
- Analisys of change in embedded value
- Goodwill value

13. Capital requirement

- Why there is capital requirement
- Calculation of capital requirements
- The sources of capital

Literature:

1. Life insurance, Black, Kenneth; Skipper, Harold D, Prentice Hall, Englewood Cliffs
2. Modern actuarial theory and practice, Haberman S.; Booth, P; Chadburn, R; Cooper, D; James, D, Chapman and Hall, London

3. Subject 302 Core Reading, Faculty and Institute of Actuaries