Our subject has a double name, that is,

FINANCIAL AND INSURANCE MATHEMATICS.

These two disciplines usually go together, since the computation principles and rules of financial maths, e.g., the INTEREST COMPOUNDING AND DISCOUNTING, PRESENT VALUES, ANNUITIES, EQUIVALENCE OF PAYMENTS, etc., are at the basis of insurance mathematics.

INSURANCE MATHEMATICS then deals with such problems as LIFE ANNUITIES and LIFE INSURANCE PREMIUMS, LIFE INSURANCE SAVINGS, etc., where the financial mathematics rules combine with the INSECURITY surrounding human life, as expressed formally by means of the MORTALITY TABLES, for example.

This interconnection of the two branches of applied mathematics means that usually lectures commence with a certain REVIEW OF, and introduction of definitions and formal symbols FOR, the basic notions of COMPOUND INTEREST, ANNUITIES ORDINARY, SIMPLE and GENERAL, PERPETUITIES, etc. Those notions and concepts are then applied in the domain of insurance.

In our course, too, this sequence of explanations will be kept to. Therefore, a brief OVERVIEW OF CHAPTERS of this course can be given as follows.

A. BASICS OF FINANCIAL MATHEMATICS

- A1. Mathematical operations with single payments
 - A1.1 Simple interest (3), simple discount (6), the notion of equivalence (6), installment buying (7).
- A1.2 Compound interest, present value, accrued value of principal (10). Nominal and effective interest rate (10). Equivalence in compound interest (11).
- A2. Mathematical operations with annuities (repeated payments)
- A2.1 Annuities simple ordinary and due (15). Total volume of payments (15). Sinking funds (17). Present value of annuity (20). Estimation of interest rate (24).
- A2.2 Other types of annuities (26). Deferred annuity (27), perpetuity (32), general annuity (33). Mortgage loans (36). General perpetuity (38).

B. BASICS OF INSURANCE MATHEMATICS

B1. Insurance against loss and damage 39 B1.1 Terms and definitions (39). Fire insurance (40). Extended coverage (42). Cancellation of policy (43).

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- B1.2 Automobile insurance (44). Public liability insurance, fire, theft and comprehensive insurance, collision insurance (44).
- B2. Life Annuities and Insurance
 - B2.1 Life (mortality) tables (47). Probability of death (48), probability of survival (49).

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- B2.2 Life annuities (54). Commutation tables (57).
- B2.3 Whole life annuity, immediate, due (60), deferred (61). Annuity temporary (61), forborne (62). General formula for the present value (net price, net single premium) of life annuity (64). Annuities payable h-times per year (65).
- B2.4 Life insurance (69). Pure endowment (69).
- B2.5 Life insurance net premiums (70). Terms and definitions (70). Whole life insurance net single premium (72). Term insurance net single premium (73). Endowment insurance net single premium (74).
- B2.6 Other types of life insurance (75). Deferred insurance (75). Accumulated cost of insurance (76). General formula for insurance (77).
- B2.7 Annual premiums (78). Ordinary life net annual premium (79).
 Limited payment whole life net annual premium (79). Term insurance net annual premium (80). Endowment insurance net annual premium (81).
- B2.8 Life insurance reserves (82). Net level premium terminal reserves (83).
 Fackler's accumulation formula (84). Retrospective terminal reserve formula (86). Prospective formula (89). Equivalence of formulae (90). Other types of reserves (91).