



# C LLEGE F C MM NICA I N AND FINE A EC MMENDED ACADEMIC LAN HEA EED CA I N- G AM, EA 2019-20

C M LE EALL E I EMEN

(52 H )

A EA I

1. The first part of the course is devoted to the study of the basic concepts of the theory of functions of a real variable. The main topics to be covered are: limits, continuity, differentiability, and integrability.

1.1

A EA II

2. The second part of the course is devoted to the study of the basic concepts of the theory of functions of a complex variable. The main topics to be covered are: analytic functions, conformal mappings, and residues.

2.1

3. The third part of the course is devoted to the study of the basic concepts of the theory of differential equations.

3.1

A EA III

4. The fourth part of the course is devoted to the study of the basic concepts of the theory of partial differential equations. The main topics to be covered are: Laplace's equation, Poisson's equation, and the heat equation.

4.1

5. The fifth part of the course is devoted to the study of the basic concepts of the theory of integral equations. The main topics to be covered are: Fredholm's integral equation, Volterra's integral equation, and the theory of kernels. The course will also cover the applications of integral equations to physics and engineering.

5.1

A EA I

6. The sixth part of the course is devoted to the study of the basic concepts of the theory of differential equations with delay.

6.1

7. The seventh part of the course is devoted to the study of the basic concepts of the theory of differential equations with stochastic perturbations. The main topics to be covered are: Brownian motion, Itô's calculus, and the theory of stochastic differential equations.

7.1

A EA

8. The eighth part of the course is devoted to the study of the basic concepts of the theory of partial differential equations with stochastic perturbations. The main topics to be covered are: stochastic partial differential equations, Itô's calculus, and the theory of stochastic partial differential equations.

8.1

