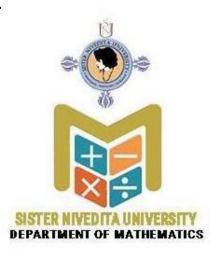


# 2020 SYLLABUS

School of Natural Sciences

B.Sc. (H) in
Mathematics
under UGC – CBCS



## **B.Sc. Mathematics (H) Course Structure**

#### Category definition with credit breakup

Semester	Credit						
	CC	DSE	GE	AECC	SEC	USC	Total/Sem
First	12	0	4	2	0	2	20
Second	12	6	4	2	1	2	27
Third	12	6	4	2	1	2	27
Fourth	12	6	4	2	1	2	27
Fifth	18	6	0	0	1	0	25
Sixth	24						24
Total Credit/ Course	90	24	16	8	4	8	
Total Credit						150	

CC: Core Courses; GE: General Elective; AECC: Ability Enhancement Compulsory Course; SEC: Skill Enhancement Courses; DSE: Discipline Specific Elective; USC: University specified course

#### First Year

Category	Course Name	Credit	<b>Teaching Scheme</b>			
			L	T	P	
Semester – I						
CC – 1	Classical and Modern Algebra	6	4	2	0	
CC – 2	Analytical Geometry of two and three dimensions	6	4	2	0	
<b>GE</b> – 1	Generic Elective	4	4	0	0	
AECC – 1	Communicative English – I	2	2	0	0	
USC – 1	Foreign Language I	2	2	0	0	
	Total Credit = 20		Teac	ning Hour = 20		
Semester – II						
CC-3	Linear Algebra	6	4	2	0	
CC – 4	Vector Analysis and vector Calculus	6	4	2	0	
<b>DSE</b> – 1	Probability and Probability distribution	6	4	0	4	
<b>GE</b> – 2	Generic Elective	4	4	0	0	
AECC – 2	Communicative English – II	2	2	0	0	
<b>SEC – 1</b>	Mentored Seminar – I	1	1	0	0	
USC – 2	Foreign Language II	2	2	0	0	
	Total Credit = 27 Teaching Hour = 2					

## **Second Year**

Category	Course Name	Credit	Teaching Scheme			
			L	T	P	
Semester – III						
CC - 5	Real Analysis	6	4	2	0	
CC – 6	Riemann Integration	6	4	2	0	
<b>DSE</b> – 2	Object oriented programming with C++	6	4	0	4	
GE - 3	Generic Elective	4	4	0	0	
AECC – 3	Environmental Science – I	2	2	0	0	
SEC-2	Mentored Seminar – II	1	1	0	0	
USC – 3	Foreign Language III	2	2	0	0	
Total Credit = 27			Teaching Hour = 29			
Semester – IV						
CC – 7	Statistical Modelling and ODE	6	4	2	0	
CC – 8	Numerical Analysis	6	4	2	4	
	Numerical Analysis Lab					
DSE – 3	Machine Learning Algorithm	6	4	0	4	
GE – 4	Generic Elective	4	4	0	0	
AECC – 4	Environmental Science – II	2	2	0	0	
SEC – 3	Mentored Seminar – III	1	1	0	0	
USC – 4	Foreign Language – IV	2	2	0	0	
Total Credit = 27 Teaching Hour = 33				ir = 33		

## **Third Year**

Category	Course Name	Credit	Teaching Scheme					
			L	T	P			
	Semester – V							
CC – 9	<b>Operations Research</b>	6	4	2	0			
CC – 10	Computational Statistics and Laplace Transforms	6	4	2	0			
CC – 11	<b>Application of Calculus and series of functions</b>	6	4	2	0			
<b>DSE</b> – 4	Data Science Project Management and Industry use cases	6	4	2	0			
SEC-4	Mentored Seminar – IV	1	1	0	0			
Total Credit = 25			<b>Teaching Hour = 25</b>					
Semester – VI								
CC – 12	Partial differential equation and dynamical system	6	4	2	0			
CC – 13	Metric Spaces and Complex Analysis	6	4	2	0			
CC – 14	<b>Elementary Mechanics</b>	6	4		2 0			
CC – 15	Project	6	0	0	12			
	Total Credit = 24				Teaching Hour = 30			