COURSE STRUCTURE FOR MSC NANOTECHNOLOGY

Course Structure: In each semester, there will be Core courses of 4 credits each, and in addition 1-2 Core courses of 2 credits each- worth a total of 12-16 credits, referred to as MSNT-CR. In addition, students will earn 8-credits from the compulsory Discipline Centric (DCE) courses, referred to as MSNT-DCE. Further, Department of Nanotechnology will offer GE courses referred to as MSNT-GE that will be open to all students from other relevant subjects (Biological, Physical and Material Science) and OE courses referred to as MSNT-OE that will be open to students from all other Faculties/Schools, so that they may seek knowledge from other subjects, which is expected to nurture student's proficiency and skill.

MSc. Degree program in Nanotechnology will therefore comprise a total of 96- credits. Out of these, 56-credits will be earned by students from Compulsory Core Courses, 32-credits from Compulsory DCE Courses and remaining 8-credits from OE/GE offered by other Programs/ Departments of University of Kashmir under CBCS scheme.

Course-Credit break up for each semester will be as:

CREDITS	COURSE				TOTAL
	COMPULSORY		CHOICE BASED		
	CORE	DCE	GE	OE	
Minimum Credits	12	8	2	2	24

Each CR course offered by the Department of Nanotechnology will be worth of 100 marks and 4-credits/ worth of 50 marks and 2-credits. In addition, each DCE course offered by the Department will also be worth 100 marks or 50 marks for a 4-credit or a 2- credit course respectively. Each Laboratory Course (practicals) of 4-credits, will be worth 100 marks. Assessment of these will be based on student's performance during practical periods and external examination of at the end of semester. The students will be required to submit their lab. work records at the end of semester examination for evaluation by the examiner/teacher(s) concerned. Each GE and OE course will be worth 50 marks and 2- credits. Mode of examination and break-up of marks of various components for theory and practical courses will be the same as approved by the competent authority, and in accordance to what shall be in-vogue for the respective academic session/s.

A Research Based Project/ Internship (CR) in 4th semester worth 200 marks and 8-credits will be undertaken by the students In addition to Laboratory Courses (practicals) of 4- Credits each in 2nd and 3rd semesters. The students will be, assigned mentors as per their choice/ and or availability of specialization, and work in the Department of Nanotechnology or at any Laboratory of repute outside the State. The project shall be submitted before the conduct of examination so that it can be evaluated and viva voce be conducted prior to declaration of the results.

M.Sc. Degree Program in Nanotechnology
Department of Nanotechnology, UOK
Scheme of Examination under CBCS pattern

	Paper	Subjects	Credits	L	T	P
Semester - I	MSNT101-CR	Essentials of Nanoscience & Nanotechnology	4	4		
	MSNT102-CR	Concepts in Solid State Physics	4	4		
	MSNT103-CR	Cell & Molecular Biology	4	4		
	MSNT104-CR	Elements of Spectroscopy	2	2		
	MSNT105-DCE	Carbon Nanostructures & Porous Materials	2	2		
	MSNT106-DCE	Genetic Engineering	2	2		
	MSNT107-DCE	Introduction to Mathematics-I	2	2		
	MSNT108-DCE	Advanced Techniques	2	2		
	OE/GE	Courses offered for other Departments	4	4		
Semester - II	MSNT201-CR	Synthesis of Nanomaterials: Physical & Chemical Approaches	4	4		
	MSNT202-CR	Characterization Methods of Nanomaterials	4	4		
	MSNT203-CR	Human Physiology & Disease	4	4		
	MSNT204-CR	Concepts in Nanophysics	2			
	MSNT205-CR	Introduction to Electronics	2	2		
	MSNT206-DCE	Nanotechnology Laboratory Course-I	4			8
	MSNT207-DCE	Introduction to Mathematics-II	2	2		
	MSNT208-DCE	Nanobioscience & Therapeutics	2	2		
	OE/GE	Courses offered for other Departments	4	4		
Semester- III	MSNT301-CR	Nanomaterials: Properties & Applications	4	4		
	MSNT302-CR	Nanoelectronics: Sensors & Devices	4	4		
	MSNT303-CR	Nanomedicine-I: Therapeutics & Diagnostics	4	4		
	MSNT304-CR	Seminar & Research Methodology	2	2		
	MSNT305-DCE	Nanotechnology Laboratory Course-II	4			8
	MSNT306-DCE	Nanomedicine-II	2	2		
	MSNT307-DCE	Environmental Nanotechnology	2	2		
	OE/GE	Courses offered for other Departments	4	4		
Semester- IV	MSNT401-CR	Research Proposal Writing	4	2	2	
	MSNT402-CR	Project- Research Based	8			16
	MSNT403-DCE	Project Presentations	4			
	MSNT404-DCE	Laboratory Bio-Safety Course	2		2	
	MSNT405-DCE	Viva-Voce	2			
	OE/GE	Courses offered for other Departments	4	4		
		TOTAL	96			