

Course Buckets for PhD Comprehensive Examination. Dept. of CSE, IIT Delhi. July 2019

The ones * are present in more than one bucket.

Theory		Applications	
Course No.	Title	Course No.	Title
COL702	Advanced Data Structures	ELL704	Advanced Robotics
COL703	Logic for Computer Science	COL724	Advanced Computer Networks
COL726	Numerical Algorithms	COL733	Cloud Computing Technology Fundamentals
COL728*	Compiler Design	COL740	Software Engineering
COL729*	Compiler Optimization	COL761	Data Mining
COL750	Foundations of Automatic Verification	COL764	Information Retrieval and Web Search
COL751	Algorithmic Graph Theory	SIL765	Networks and System Security
COL752	Geometric Algorithms	SIL769	Internet Traffic - Measurement, Modeling & Analysis
COL753	Complexity Theory	COL768	Wireless Networks
COL754	Approximation Algorithms	COL770	Advanced Artificial Intelligence
COL756	Mathematical Programming	COL772	Natural Language Processing
COL757	Model Centric Algorithm Design	COL774	Machine Learning
COL758	Advanced Algorithms	COL776	Learning Probabilistic Graphical Models
COL759	Cryptography and Computer Security	COL780	Computer Vision
COL765	Logic and Functional Programming	COL781	Computer Graphics
COL818	Principles of Microprocessor Systems	COL783	Digital Image Analysis
COL830	Distributed Computing	COL829	Advanced Computer Graphics
COL831	Semantics of Programming Languages		
COL832	Proofs and Types		
Systems			
Course No.	Title		Rules:
COL718	Architecture of High Performance Computers		<p>1. Students have to do at least one course from each bucket and get at least a grade of B. The course can be done in an Audit mode (with prior approval from the instructor). In the latter case, instructor has to certify that student got an equivalent of B or more grade.</p> <p>2. For courses listed in more than one bucket, student can get it counted for any one (but not more than one) of the buckets.</p>
COL719	Synthesis of Digital Systems		
COL720	Real Time Systems		
COL728*	Compiler Design		
COL729*	Compiler Optimization		
COL730	Parallel Programming		
COL732	Virtualization and Cloud Computing		
COL760	Advanced Data Management		
COL762	Database Implementation		
COL788	Advanced Topics in Embedded Computing		
COL812	System Level Design and Modelling		
COL819	Advanced Distributed Systems		
COP820	Processor Design Laboratory		
COL821	Reconfigurable Computing		