Schedule for Introduction to Grad Algorithms – CS 6515 Summer 2026

Week	Lectures	Sections in DPV	Assignments and Exams	**Due** (8 AM)
1: 5/18	Introduction to Graduate Algorithms		Readiness Check (Lessons + Coding env check)	NA
	Big-O notation	0.3	HW 0 (coding)	May 25
	DP1: Finonacci (FIB)	0.2	HW 1 (written)	May 25
	Longest Increasing Subseq (LIS)	6.2	Quiz 1: Format Quiz on DP	May 25
	Longest Common Subseq (LCS)	6.3	Logistic Quiz: Communication	June 1
	DP2: Knapsack	6.4	Logistic Quiz: Academic Integrity	June 1
	Chain Multiply (CMM)	2.5, 6.5	Logistic Quiz: Onboarding	June 1
2: 5/25	DC3: Solving Recurrences	2.2	HW 2 (written)	June 1
	DC1: Fast Integer Multiplication	2.1	Quiz 2: Format Quiz on D&C	June 1
3: 6/1	DC2: Sorting Algorithms	2.3	HW 3 (coding)	June 8
	Linear-Time Median	2.4	HW 4 (coding)	June 8
			Quiz 3: Content Quiz on DP + D&C	June 8
			Mock Exam	NA
4: 6/8	DP3: Shortest Paths	6.1, 6.6, 4.6, 4.7	**EXAM 1: Weeks 1-3, opens Thur @10am ET**	June 11 - 15
	GR1: Strongly Connected Components (SCC)	3.1-3.4, 4.1-4.4		
	GR2: 2-Satisfiability (2-SAT)	3.4, 5.3, 8.1		
5: 6/15	GR3: Minimum Spanning Tree (MST)	5.1	Quiz 4: Format Quiz on Graph Theory	June 22
			HW 5 (written)	June 22
6: 6/22	Flows on Networks MF1, MF2, MF4		HW 6 (written)	June 29
	MF1: Ford-Fulkerson	7.2	HW 7 (coding)	June 29
	MF2: Max-flow=min-cut	7.2	Quiz 5: Content Quiz on Graph Theory	June 29
7: 6/29	MF4: Edmonds-Karp	7.2	**EXAM 2: Weeks 4-7, opens Thur @10am ET**	July 2 - 6
			Withdrawal Date: Sunday, July 5, 11:59 PM	
8: 7/6	NP1: NP, Reductions	8.1, 8.2	Quiz 6: Format Quiz on NP Theory	July 13
	NP2: 3-SAT	8.3, 5.3	HW 8 (written)	July 13
	NP3: Graph Problems	8.3, 6.7, 5.4		
9: 7/13	LP1: Introduction to Linear Programming	7.1, 7.6	Quiz 7: Content Quiz on NP & LP	July 20
	LP2: Geometry	7.6	HW 9 (written)	July 20
	LP3: Duality	7.4	HW 10 (written)	July 20
10: 7/20	LP4: Max-SAT approximation	7.7, 8.1, 8.3	**EXAM 3: Weeks 8-10, opens Thur @10am ET**	July 23 - 27
	NP4: Knapsack	8.3, 6.7, 5.4		
	NP5: Halting Problem	8.3		
11: 7/27	Optional Topics		Quiz 8: Cumulative Content Quiz	August 3
12: 8/3	Optional Topics		Grades Due by 8/10	

Grading:

- Logistic Quizzes (3): 1 pt each, 3% of course grade (unlimited attempts)
- Format Quizzes (4): 10 pts each, 1% of course grade (two attempts each)
- Content Quizzes (4): 20 pts each, 6% of course grade (two attempts each), best three of the four (drop the lowest)
- Coding Homework (4): 10 pts each, Recommended, 0% of course grade
- Written Homework (7): 20 pts each, Recommended, 0% of course grade
- Weighted Exams (3): 100 pts each, 90% of course grade (25% lowest, 30% middle, 35% highest)
- Final Grades: A [85%,100%], B [70%,85%), C [50%, 70%), D [40%, 50%), F [0%, 40%)

[DPV] S. Dasgupta, C. H. Papadimitriou, U. V. Vazirani, *Algorithms*, 1–337 (2006)