IIUC Competitive Programming Society

CP Bootcamp Spring 2026

Duration: 12~15 Weeks class + Track sheet activity and guidance till semester ends.

Registration fees: 1000/= BDT

Registration Link: https://forms.gle/kzPgqa21SrQ99anW9

This syllabus is tentative and may be subject to change.

What you get

- Dedicated mentor for each participant
- Topic-wise practice problems after every class
- Regular practice contests to track progress
- Classes by IIUC alumni and experienced senior contestants

Newcomer

For those who only know basic programming/language fundamentals and want to start Competitive Programming from the very beginning. No previous CP experience needed.

Newcomer Track · 9 Topics

Target: First solve on Codeforces / Competitive judge

#	Topic	Subtopics / Notes
01	**Online Judge & CP Skeleton**	Fast I/O basics, setting up environment
02	**Time Complexity**	Big-O notation and intuition
03	**Limits, Floats & Overflows**	Basic modulo arithmetic
04	**Arrays & Strings**	Frequency arrays, string manipulation
05	**Searching & Sorting**	Linear search, binary search idea, built-in sort, ad-hoc thinking

06	**Bitwise, Greedy & Constructive**	Introduction to bitwise operators, greedy approach
07	**Basic Math & Number Theory**	Fundamentals of math for CP
08	**Basic Recursion**	Recursive thinking and simple problems
09–11	**Problem Solving Sessions (×3)**	Dedicated practice rounds to consolidate learning

Beginner

For those who have already practiced CP on different platforms and now want to push their rating towards Pupil / Specialist.

Beginner Track · 11 Topics

Target: Pupil & Specialist on Codeforces

#	Topic	Subtopics / Notes
01	**STL Part 1**	Vectors, stacks, queues, maps, sets
02	**STL Part 2 & PBDS**	Priority queues, policy-based data structures
03	**Prefix Sum & Difference Array**	Two pointer, sliding window techniques
04	**Number Theory**	GCD, LCM, Sieve of Eratosthenes, prime factorization, Bigmod, SPF, HPF
05	**Binary Search & Interactive**	Binary search on answer, Binary search on Fraction , Interactive problem strategies
06	**Greedy, Constructive & Bitwise**	Combined applications
07	**Recursion & Intro to DP**	Recursive to dynamic programming transition
08	**Graph**	Graph representation, BFS, DFS, connected components, Multisource BFS,
09	**Topo Sort & Tree Algorithms**	Topological sorting, tree diameter, cycle detection, Dijkstra
10	**Combinatorics & Arithmetic**	Basic combinatorics, arithmetic ops, basic bitmasking
11	**Basic Geometry**	Points, lines, polygons for CP