

# Course Syllabus

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## Introduction

Hello and Welcome to 6.042 Rules! I am Adrish. Your TA. Thank You for Signing Up with us!

The Course is very hard (obviously! It's from MIT!) **But Please Don't Loose Hope!**. It is really important that you guys keep yourself together through out the journey of 6.042. But First We want to tell you guys that all the course materials will be released on **approximately 10:00 IST** and the submission time **will be on 23:00 IST** . If there are any changes it will be given in the course update part of your dashboard. I hope you Enjoy the course as we enjoyed making it!

**The Course may contain a handful of units, but I make you sure that you are gonna enjoy it!**

***The Weeks are not consecutive in nature! So Don't get panicked about completing the Problem Sets in Time!***

*We hope you stay together and enjoy this wonderful ride of 6.042, with us!*

## Syllabus

<b>Week</b>	<b>Unit</b>
<b>Week 1</b>	Unit 1: Induction and Proofs
<b>Week 2</b>	Unit 2: Induction Unit 3: Strong Induction
<b>Week 3</b>	Unit 4: Number Theory I Unit 5: Number Theory II
<b>Week 4</b>	Unit 6: Graph Theory and Graph Coloring Unit 7: Matching Problem
<b>Week 5</b>	Unit 8: Graph Theory II: Minimum Spanning Trees Unit 9: Graph Theory III
<b>Week 6</b>	Unit 10: Relations, Sets, Partial Orders (Posets) and Scheduling Unit 11: Communication Networks
<b>Week 7</b>	Unit 12: Sums -I Unit 13: Sums-II (Sums and Asymptotics)
<b>Week 8</b>	Unit 14: Divide And Conquer Recurrences Unit 15: Linear Recurrences
<b>Week 9</b>	Unit 16: Counting Rules I Unit 17: Counting Rules II
<b>Week 10</b>	Unit 18: Probability Introduction Unit 19: Conditional Probability
<b>Week 11</b>	Unit 20: Independence
<b>Week 12</b>	Unit 21: Expectation I Unit 22: Expectation II Unit 23: Random Walks