

# **Study materials:**

For learning materials, please refer to the provided Google Drive link and Youtube links:

## **Practical materials on MATLAB (youtube links):**

<https://www.youtube.com/watch?v=YWUPhgHpSBM&t=3s>

<https://www.youtube.com/watch?v=9IsOH4gAtv4&t=3s>

## **C language learning materials:**

[https://drive.google.com/drive/folders/1JZ-B0qOgbTgZur4u6qGodNzBRKteoL6r?usp=drive\\_link](https://drive.google.com/drive/folders/1JZ-B0qOgbTgZur4u6qGodNzBRKteoL6r?usp=drive_link)

## **Teaching materials on Probability and Statistics:**

- **Geometric problems on probability**

<https://www.youtube.com/watch?v=CeftV-jj6pw&t=71s>

- **Problems on probability**

<https://www.youtube.com/watch?v=N3YdfBEZsuU>

- **Conditional Probability**

[https://www.youtube.com/watch?v=V6D\\_1CLMaNM](https://www.youtube.com/watch?v=V6D_1CLMaNM)

- **Poisson approximation to Binomial law**

<https://www.youtube.com/watch?v=gk9ULIBQGz0>

- **Application of Baye's Theorem**

[https://www.youtube.com/watch?v=kp8gtq\\_M9yM](https://www.youtube.com/watch?v=kp8gtq_M9yM)

<https://www.youtube.com/watch?v=8nPXwjOPhwk>

<https://www.youtube.com/watch?v=6ePP7dSBi7o>

- **Baye's Theorem on probability**

<https://www.youtube.com/watch?v=VUxxHmRSAEk>

- **Find the probability of the union of two events**

<https://www.youtube.com/watch?v=m1ioR5tVcKU&t=4s>

- **Events**

<https://www.youtube.com/watch?v=AF2I9xiGt5U>

- **Problem on alternatives series**

<https://www.youtube.com/watch?v=Vicb3GaxFPc>

- **Theorem on sequence of events**

[https://www.youtube.com/watch?v=Ra8xZBsK\\_yE](https://www.youtube.com/watch?v=Ra8xZBsK_yE)

- **Problem 4 on Fermat's theorem**

<https://www.youtube.com/watch?v=1IygXR4WpQ4&t=115s>

- **Theorem 2 on Divisibility test**

<https://www.youtube.com/watch?v=0vR2erlJmTA>

- **Theorem 1 on Greatest integer function**

<https://www.youtube.com/watch?v=GCWw5rx9o8I>

- **Random experiment and examples**

<https://www.youtube.com/watch?v=K9S25r6at1M>

- **Theorem3 relation between Euler's Phi-function and Mobius function**

<https://www.youtube.com/watch?v=1fJhRdcEKcY>

- **Problem 1, 2 on Fermat's theorem**

<https://www.youtube.com/watch?v=dUSRtgjwNko>

- **Bernnoulli trial**

<https://www.youtube.com/watch?v=OaiHrG93jYQ>

- **Statistical definition and Axiomatics definition of probability**

<https://www.youtube.com/watch?v=Pvq1IvqP1x0>

- **Classical definition of probability**

<https://www.youtube.com/watch?v=AGeW-kLguvQ>

- **Null events**

<https://www.youtube.com/watch?v=PgvXAbX7wss&t=11s>

- **Disjoints events**

<https://www.youtube.com/watch?v=lbTFOYYIKjc>

- **Sample spaces**

<https://www.youtube.com/watch?v=GJbqOfdnKHU&t=20s>

- **Mobius function is multiplicative**

<https://www.youtube.com/watch?v=m6EMlyaIjjI>

- **Theorem 2 on Mobius function**

<https://www.youtube.com/watch?v=PqLUfIaBIqk>

- **Definition and example of Mobius function**

<https://www.youtube.com/watch?v=hdHRG6Wo32Q&t=8s>

- **Problem on Pythagorean triplet**

<https://www.youtube.com/watch?v=nzs1h-zJ5X4>

<https://www.youtube.com/watch?v=oXwOXji1XHM&t=15s>

<https://www.youtube.com/watch?v=jcC7XtWJghA>

<https://www.youtube.com/watch?v=v7ggVSryF24>

- **Definition and example on Pythagorean triplet**

[https://www.youtube.com/watch?v=zFHreKJM\\_1M](https://www.youtube.com/watch?v=zFHreKJM_1M)

- **Primitive Pythagorean triplet**

[https://www.youtube.com/watch?v=3E\\_OU9rJePs](https://www.youtube.com/watch?v=3E_OU9rJePs)

- **Wilson's Theorem**

<https://www.youtube.com/watch?v=hTGot5NZWyI&t=45s>

- **Every absolute convergence implies convergence but converse is not true**

<https://www.youtube.com/watch?v=CHyB0amAsU8&t=26s>

- **Assignment on Euler-Phi function**

[https://www.youtube.com/watch?v=ra\\_BGeYPVxQ](https://www.youtube.com/watch?v=ra_BGeYPVxQ)

- **Problem 2, 3 on Euler Phi-function**

[https://www.youtube.com/watch?v=G5Q1R\\_zJlq8&t=13s](https://www.youtube.com/watch?v=G5Q1R_zJlq8&t=13s)

<https://www.youtube.com/watch?v=wzxyOJtqvqA&t=31s>

- **Euler Phi-function**

<https://www.youtube.com/watch?v=X0gfBjvF5PQ>