MATH DOMAIN resources

(IT IS STRICTLY PROHIBITTED THAT YOU SHARE THIS RESOURCE FILE TO ANYONE ELSE, IF YOU ARE FOUND SHARING THESE FILES YOU WILL BE QUESTIONED AND THERE WILL BE CONSEQUENCES IF DEEMED NECESSARY)

<u>Pre-literature phase topics</u>

COMPULSORY FOR EVERYONE TO DOWNLOAD ERWIN KREIYZIG BOOK :

Link http://www.bau.edu.jo/UserPortal/UserProfile/PostsAttach/59003_3812_1.pdf

We will not ask you anything to do from this book but this book is essential tool for everyone to use.

1. **<u>MATLAB</u>**:
- **google search and complete course within two weeks**
- YouTube video for making GUI in **MATLAB:** https://www.youtube.com/watch?v=Ta1uhGEJFBE (for fun and proper projects)
- YouTube video for programmer POV for statistics in MATLAB : https://www.youtube.com/watch?v=T_ekAD7U-wU (advanced topic)

2. **<u>Statistics and understanding probability in statistics:</u>**
- Read book: http://kaizenha.com/wp-content/uploads/2016/04/Applied20Statistics20and20Probability20for20Engineers205ed.pdf

- **We will assign you topics to cover from this book**

3. **<u>Applications of Differential equation</u>**
- **Playlist:** https://youtube.com/playlist?list=PLZHQObOWTQDMsr9K-rj53DwVRMYO3t5Yr (3B1B series) (must watch for all)

4. **<u>Complex numbers:</u>**
- Playlist: https://youtube.com/playlist?list=PLDcSwjT2BF_UDdkQ3KQjX5SRQ2DLLwv0R
- **Refer any good book that you can find.**
5. **<u>Applied numeric methods:</u>**
- Lecture notes: https://personal.math.vt.edu/embree/math5466/nanotes.pdf (for reference)
- **Will provide materials later.**

Fun topics and channels

1. Calculation of average distance between two random points in an unit circle:

   https://youtube.com/playlist?list=PLDcSwjT2BF_XRsHboeAQ5esyUd6RdHtgC

2. VITMAS BLOG channel: https://medium.com/@vitmas
3. NUMBERPHILE YouTube channel : https://www.youtube.com/c/numberphile
4. MATHOLOGER : https://www.youtube.com/c/Mathologer

COMAP contest

https://www.comap.com/undergraduate/contests/

https://www.comap.com/undergraduate/contests/mcm/contests/2022/problems/MCM-ICM_Tips.pdf