Fourier Transform

1) Introduction to Fourier Transform

https://youtu.be/BJdi3Hgtwo0

2) Fourier sine Transform

https://youtu.be/xijhV4nBk9Q

3) Fourier cosine Transform

https://youtu.be/CnA9hgKE8wo

4) Fourier transform for self reciprocal

https://youtu.be/zkGfwd6tNEI

Fourier series

1) [Introduction to Fourier series](#)

https://www.youtube.com/watch?v=4FTW-WWtClo&list=PL_QzoBB8FU8eDfA73lF71hnxLyYgOZaiv&index=1&t=319s

2) [Exampe 2](#) and [example 3](#)

https://www.youtube.com/watch?v=1cOGKjrwwPk&list=PL_QzoBB8FU8eDfA73lF71hnxLyYgOZaiv&index=2

and

https://www.youtube.com/watch?v=iGtHyo4ktPE&list=PL_QzoBB8FU8eDfA73lF71hnxLyYgOZaiv&index=3

3) [Odd and even functions with examples](#)

https://www.youtube.com/watch?v=zph2f878okc&list=PL_QzoBB8FU8eDfA73lF71hnxLyYgOZaiv&index=4

4) [Half range Fourier series](#) cosine and sine series.

https://www.youtube.com/watch?v=7NZbjCW0quc&list=PL_QzoBB8FU8eDfA73lF71hnxLyYgOZaiv&index=5&t=104s

Numerical Methods

1. [Trick to solve Regular falsi method example](#)

 https://www.youtube.com/watch?v=hv-RO1jPoWM

 Also [Regular falsi method example](#)

https://youtu.be/kZceH0YSF_k?list=PL_QzoBB8FU8eGdrpP9Y6bto0AAseRvWUp

2. [Iteration method](#) and [examples](#)

https://www.youtube.com/watch?v=qcNtfnkSMNE

and

https://www.youtube.com/watch?v=n_tOn-8Hof8

3. [Euler Method](#) and [examples](#)

https://www.youtube.com/watch?v=_r-vaRhxbjs

and

https://www.youtube.com/watch?v=_r-vaRhxbjs

4. [Modified Euler Method](#)

https://www.youtube.com/watch?v=_VSl51FkMQc

5. [Newton Raphsons Method](#) and [example](#)

https://www.youtube.com/watch?v=KujCi2QXGoM

and

https://www.youtube.com/watch?v=eLMWNQBPYL0

6. [Taylors series expansion method Introduction with example](#)

https://youtu.be/RVsEXyzygw8?list=PL_QzoBB8FU8eGdrpP9Y6bto0AAseRvWUp

7. [Taylors method part 2 example 2,3](#)

https://youtu.be/tOFJbzuC9O8?list=PL_QzoBB8FU8eGdrpP9Y6bto0AAseRvWUp

Probability

1. [Introduction](#) to [probability distribution](#) and [examples](#)

https://www.youtube.com/watch?v=0ZNhZDqpEek&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=1&t=243s

and

https://www.youtube.com/watch?v=0ZNhZDqpEek&t=117s

and

https://www.youtube.com/watch?v=0ZNhZDqpEek&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=1

2. [Random Variables](#) and [examples](#) :

https://www.youtube.com/watch?v=b55ZgTDpXqY&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=2

and

https://www.youtube.com/watch?v=b55ZgTDpXqY&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=2&t=84s

3. [Probability distribution of random variable](#)

https://www.youtube.com/watch?v=yJOAu7_1_x0&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=3

4. [Discrete probability distribution of random variables](#)

https://www.youtube.com/watch?v=lJ_J4pxgX-4&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=4

5. [Exponential distribution](#)

https://www.youtube.com/watch?v=twLRHJvY7iA&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjU MNzy&index=5

6. [Poisson distribution](#) and [examples](#)

https://www.youtube.com/watch?v=mtHhAsFU8dQ&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRj UMNzy&index=6

and

https://www.youtube.com/watch?v=InuBiFdC8uI&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjU MNzy&index=8

7. [Binomial distribution](#)

https://www.youtube.com/watch?v=pkO1jOYfGzw&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjU MNzy&index=7

8. [Normal distribution](#)

https://www.youtube.com/watch?v=gzbaHHWtVvo&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRj UMNzy&index=9

9. [Means and deviation derivation](#)

https://www.youtube.com/watch?v=umJjZeQTc2I&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjU MNzy&index=11

10. [Normal distribution with examples](#)

https://www.youtube.com/watch?v=XTJzV4-Kisw&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjUMNzy&index=12

11. [Properties of standard normal distribution with examples](#)

https://www.youtube.com/watch?v=vpgg6tZqGEQ&list=PL_QzoBB8FU8cWL2YLMztwfPQFNRjU MNzy&index=13

Joint Probability Distribution

1) <u>Introduction</u>

https://www.youtube.com/watch?v=_xdcX4wDGhY&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=1&t=8s

2) <u>Examples on mean, variance, covariance, correlations.</u>

https://www.youtube.com/watch?v=XeY1__NgU7M&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=2&t=6s

3) <u>Marginal distribution, covariance, correlation for the random variable.</u>

https://www.youtube.com/watch?v=Zhsna1O6hjA&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=3&t=1s

4) <u>Introduction to Markov chain and stochastic process with examples</u>

https://www.youtube.com/watch?v=gRcIcikw3Zk&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=4&t=1330s

5) <u>Conditional joint probability distribution</u>

https://www.youtube.com/watch?v=Cyktcr7Prsw&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=5

6) <u>Fixed Probability vector</u>

https://www.youtube.com/watch?v=4w_yUDR19UQ&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=6&t=54s

7) <u>Stochastic process and Markov chain examples</u>

https://www.youtube.com/watch?v=8VDedX9BWNM&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=7&t=313s

8) [Example on 2 marbles selected from 3blue 2 red 3 green.](#)

https://www.youtube.com/watch?v=eVXkoQtAZjk&list=PL_QzoBB8FU8epywyogP3sVWFNok2dVKqO&index=8