Link to YouTube videos

1.1 What is Monte Carlo

https://youtu.be/pVxFvp3eJ9s

1.2 Random variables

https://youtu.be/cqEuHVQvDH0

1.3 Probability density function

https://youtu.be/By2PpkL-_ls

1.4 Cumulative distribution function

https://youtu.be/W0z3wnlQCoU

1.5 Elements of statistics

https://youtu.be/HC98crKv_Fs

2.1 Random number generators

https://youtu.be/X86bk3bd5Ec

2.2 Inverse transform

https://youtu.be/KrJjiTOyRY4

2.3 Acceptance rejection

https://youtu.be/p9EHmdtaBBA

2.4 Simple sampling

https://youtu.be/RgMg0Db8Ejg

2.5 Variance of the mean value

https://youtu.be/jICyTrRJj4Y

2.6 Confidence intervals

https://youtu.be/OltiO-WUKOE

3.1 Figure of merit

https://youtu.be/ncVoKKn4XWU

3.2 Control variate

https://youtu.be/pRvWyIOX-GM

3.3 Correlated sampling

https://youtu.be/c7jUoGfAxvE

3.4 Stratified sampling

https://youtu.be/w0wXUOWDZr4

3.5 Importance sampling

https://youtu.be/ymeSc0SPFmE

4.1 Selection of random directions

https://youtu.be/GV2RfyJoFUY

4.2 Sampling the source

https://youtu.be/SeXjj_1t9Yk

4.3 Transition kernel

https://youtu.be/Rcc7MLxfPAc

4.4 Selection of interaction type

https://youtu.be/hAEwMi7Wmmc

4.5 Selection of energy and direction

https://youtu.be/IkVcpiglj5w

4.6 Fixed source simulations

https://youtu.be/tBin2p95cxw

4.7 Criticality simulations

https://youtu.be/C8F_BdqL4G4

5.1 Serpent general info

https://youtu.be/PSJDQ-RvLVg

5.2 Serpent library

https://youtu.be/vvLalrfOv10

5.3 Serpent input intro

https://youtu.be/aaeyYHsqfrQ

5.4 Serpent input surfaces

https://youtu.be/u9ypjybO8oQ

5.5 Serpent input materials

https://youtu.be/OlBprULtLa8

5.6 Serpent input cells

https://youtu.be/m201hWch-f8

5.7 Serpent input lattices

https://youtu.be/zFbSGKtVD7o

5.8 Serpent input options

https://youtu.be/vKPL7WFLDd4

5.9 Serpent execution

https://youtu.be/m6LgJNL934M

5.X Serpent demo

https://youtu.be/FE9J6Lg9Ke0

6.1 Convergence of fission source

https://youtu.be/KEGAcDCn-AY

6.2 Bias in fission source

https://youtu.be/031dFkfxwZc

6.3 Optimisation of source convergence

https://youtu.be/Q_SJf5z_FPE

7.1 Burnup simulations

https://youtu.be/f_8HU3iSrMU

7.2 Fuel cycle simulations

https://youtu.be/S4zyFjUpqgk

7.3 Explicit Euler burnup scheme

https://youtu.be/652KLRcYlsc

7.4 Predictor-corrector burnup scheme

https://youtu.be/dR_skpkFTRs

7.5 Implicit Euler burnup scheme

https://youtu.be/CjBlrMNXvIk

8.1 Geometry representation

https://youtu.be/ITtJIaYlMOU

8.2 Conventional tracking in space

https://youtu.be/AORxIGH1Zyo

8.3 Virtual collisions

https://youtu.be/h7bPIWXIEuE

8.4 Delta tracking

https://youtu.be/2Ls1R_ramP0

9.1 Neutron statistical weight

https://youtu.be/c4byyY6FY-Q

9.2 Russian roulette rule

https://youtu.be/0-U-pWfw9zw

9.3 Implicit capture

https://youtu.be/FJadV35mvr4

9.4 Implicit fission

https://youtu.be/e9oT0uZMfio

9.5 Tallying procedures

https://youtu.be/KNPo7nut-yI

X.1 Exponential transformation

https://youtu.be/4r_wz6GcFks

X.2 Geometry splitting

https://youtu.be/SNdY8adlLzI

X.3 Weight window technique

https://youtu.be/gludTqmU01Q

X.4 Parallel simulations

https://youtu.be/8Esf3DgiP5E