The Physics of Inflation
Graduate Lectures

- **Classes**: M.W. 11, MR9.
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The latest version of the complete lecture notes can be downloaded [here](#).

1. **Classical Dynamics of Inflation**  
   Horizon Problem. Shrinking Hubble Sphere. Slow-Roll.

2. **Quantum Fluctuations during Inflation**  
   Vacuum Fluctuations as the Origin of Structure.

3. **Contact with Observations**  
   Curvature Perturbations. CMB. LSS.

4. **Reheating after Inflation**  
   Perturbative and Non-Perturbative (P)reheating.

5. **Primordial Non-Gaussianity**  
   Quantum and Classical Non-Gaussianities

6. **Effective Field Theory**  
   Basic Principles and Applications of EFTs.

7. **Effective Field Theory and Inflation**  
   Eta Problem. Large-Field Inflation.

8. **Supersymmetry and Inflation**  
   Facts about SUSY. Inflation in SUGRA.

9. **String Theory and Inflation**  
   Brane Inflation. Axion Inflation.