



Module PMRF-ISSS096/2025

Statistical Mechanics

Name of the PMRF student

Saikat Mondal

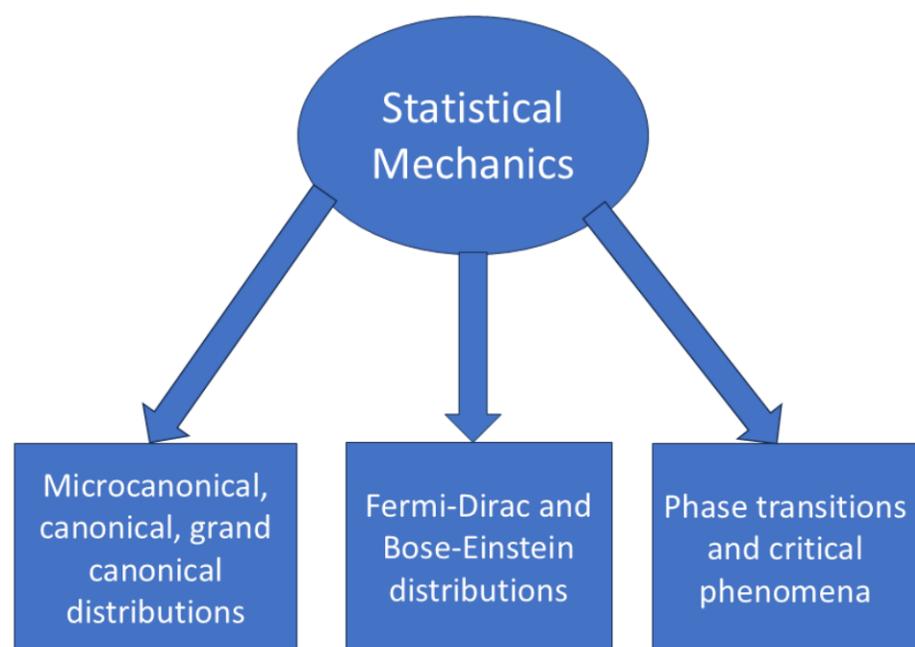
Required background of the students taught

Undergraduate/ postgraduate studies
in Physics/ other related departments

Details of the content of the module

The following topics will be covered in
the lectures on Statistical Mechanics:

1. Concepts of probability
2. Statistics of classical particles:
Microcanonical, canonical and
grand canonical distributions
3. Statistics of quantum particles:
Fermi-Dirac and Bose-Einstein
statistics
4. Density matrix formulation of
statistical mechanics
5. Phase transition and critical
phenomena: First order and second
order phase transitions, Ising
model, Mean-field theory, critical
exponents



Schedule of the module

Start Date: 10/10/2025

End Date: 26/10/2025 (Tentative)

Time: Friday, Saturday, Sunday, Monday,
Tuesday, Thursday (4:00 pm – 6:00 pm)

Meeting link :

meet.google.com/yrm-sweb-xsi

Contact email ID: issf.forum@gmail.com

Registration link:

<https://forms.gle/vcxFJH1iiHTqa56m6>