

**Modules:**

physics700 **Elective Advanced Lectures**  
 physics730 **Theoretical Physics**

**Course:****Random Walks and Diffusion (T)**

Course No.: physics7502

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	1+1	3	ST

**Requirements:****Preparation:**

Quantum mechanics and Thermodynamics

**Form of Testing and Examination:**

Requirements for the (written or oral) examination: Successful work within the exercises

**Length of Course:**

1 semester

**Aims of the Course:**

The aim of the course is to introduce the student to random processes and their application to diffusion phenomena

**Contents of the Course:**

Basics of probability theory, Master equation and Langevin equation, Law of large numbers and Central Limit Theorem, First passage problems, Large scale dynamics, Dynamical scaling.

**Recommended Literature:**

Will be announced in the first lecture