

## LTCC Proposed Course

**Title: Introduction to the Modern Theory of Scattering**

**Basic Details:**

- Core Audience: 3rd year: pure and applied
- Course Format: Extended

**Course Description:**

- Keywords: Scattering, resolvent, outgoing, resonances
- Syllabus:
  - o Lecture 1: Motivation, definition of the resolvent and the outgoing condition
  - o Lecture 2-3: meromorphic continuation properties, resonances and resonance expansions, structure of the resolvent near poles
  - o Lecture 4-5: outgoing asymptotics, the scattering matrix and trace formulae (time permitting)
- Recommended reading: Mathematical Theory of Scattering Resonances - Dyatlov and Zworski
- Prerequisites: Basic PDEs and functional analysis

**Format:**

- No of discussion/problem sheets: 4
- Electronic lecture notes
- Proposed timing:
- Lecture hours: 10

**Lecturer Details:**

- Lecturer: Dr. Jeffrey Galkowski
- Lecturer home institution: University College London
- Lecturer e-mail: TBD
- Lecturer telephone number: TBD

This course will give an introduction to the modern theory of scattering and serve as an application of PDE and functional analysis methods.