

The Chinese University of Hong Kong
MATH 6082 — Topics in Analysis II (Topics in Free-Boundary Problems in Mathematical Fluid Dynamics)

1. GENERAL INFORMATION.

Instructor: Chenyun Luo.

Office: Lady Shaw Bld 213.

Instructor's email: cluo@math.cuhk.edu.hk.

Lecture time and location: M, 11:30 am–2:15 pm in LSK 302.

2. COURSE INFORMATION.

This is an advanced PDE course dedicated to free-boundary problems in fluid equations. We shall start with an introduction to mathematical fluid mechanics and then gradually move to discuss recent research papers concerning compressible gravity-capillary water waves. Other topics will be decided based on the progress of this course.

2.1. **Textbook.** No textbook is required. All lectures will be conducted based on the instructor's notes.

2.2. **Reference.** To be updated in the course webpage.

3. COURSEWORK

Students are expected to give a 25-minute presentation based on a research paper related to the course. There will be no exams.

4. ASSESSMENT SCHEME

The final letter grade will depend on the quality of the presentation.