

# Riemann surfaces

**Lecturer**

Joel FINE (Coordinator)

**Course mnemonic**

MATH-F513

**ECTS credits**

5 credits

**Language(s) of instruction**

English

**Course period**

First term

## Objectives (and/or specific learning outcomes)

A surface is a space built by gluing together small pieces of  $\mathbb{R}^2$  using homeomorphisms. To build a Riemann surface, we glue together small pieces of  $\mathbb{C}$  using biholomorphisms. Such surfaces arise naturally in many areas of mathematics and physics. Since the gluing maps are biholomorphisms one can do complex analysis on such surfaces. We will investigate the strong links between the topology of the Riemann surface and the behaviour of the holomorphic objects defined on it.

## Pre-requisites and co-requisites

### Co-requisites courses

MATH-F420 | Differential geometry II | 5 crédits

## Teaching method and learning activities

Lectures

References, bibliography and recommended reading

"Riemann Surfaces" by Simon Donaldson.

## Other information

### Contact(s)

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## Evaluation method(s)

Oral examination

### Evaluation method(s) (additional information)

Oral exam

### Main language(s) of evaluation

English and French

## Programmes

Programmes proposing this course at the faculty of Sciences

MA-MATH | Master in Mathematics | finalité Research/unit 1 and finalité Research/unit 2