INTRODUCTION TO GROMOV-WITTEN INVARIANTS

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The goal of this crash course is to introduce the basic notions of moduli space of stable maps and Gromov-Witten invariants. In particular when the stable maps have rational domain and the target is a projective space.

Course meeting times
We meet in the following days of June 2022:
Wednesday, 15/6, at 13:30-15
Friday, 17/6, at 11:30-13
Monday, 20/6, at 11:30-13
Wednesday, 22/6, at 11:30-13
Friday, 24/6, at 11:30-13
The classroom will be 6.2.33 (sala de seminários).

Prerequisite
Basic algebraic geometry: schemes, singular cohomology, and cohomology of sheaves. A good knowledge of [Har77] is useful.

Description
The course is split in 5 main parts. We will cover the following topics, time permitting.

1. Basic definitions.
2. The case of genus 0: boundary divisors and examples.
4. Quantum cohomology.
5. Kontsevich-Atiyah-Bott formula.

If time permits, we will give some enumerative applications. The main references are [FP97], [CK99] and [HTK+03].

References


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