

Matemáticas

Oxford University

<https://www.maths.ox.ac.uk/system/files/attachments/UG%20Handbook%202017.pdf>

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- The *core areas* of mathematics including the principal areas of mathematics needed in applications.
- Some of the principal areas of *application* of mathematics.
- The correct use of mathematical *language* and *formalism* in mathematical thinking and logical processes.
- The basic ideas of mathematical *modelling*
- Some of the processes and pitfalls of mathematical approximation.
- Techniques of manipulation and computer-aided *numerical* calculation.
- The basic ideas of a variety of pure and applied *areas of specialization*.
- Several specialized areas of mathematics or its applications, the principal results in these areas, how they relate to real-world problems and to problems within mathematics (including, in the four-year course, *problems at the frontiers of current research*).

Ohio University

Mathematics Student Learning Outcomes Assessment

<https://www.ohio.edu/institutes/assessment/outcome/mathematics.cfm>

Interesante porque tiene RA para pregrado, maestría y doctorado. Se listan las de pregrado a continuación

- Students will acquire problem-solving skills in a broad range of mathematics.
- Students will be able to produce and judge the validity of rigorous mathematical arguments.
- Students will be able to communicate mathematical ideas and arguments, both written and orally.
- Students will be prepared to use mathematics in their careers.

University of San Diego

<https://www.sandiego.edu/cas/math/program/learning-outcomes.php>

- Learning Outcome 1: Working Knowledge

Students will demonstrate a working knowledge of selected topics from calculus, linear algebra and distribution of other branches of mathematics.

- Learning Outcome 2: Proofs & Arguments

Students will demonstrate the ability to determine the validity of a given argument and be able to construct mathematical proofs independently.

- Learning Outcome 3: Algorithms

Students will demonstrate understanding of the mathematical basis of common algorithms, and the ability to calculate accurately and efficiently.

- Learning Outcome 4: Problem Solving

Students will demonstrate the ability to solve problems, including applications outside of mathematics, by means of intuition, creativity, guessing and the experience gained through the study of particular examples and mathematical models.

- Learning Outcome 5: Mathematical Communication

Students will demonstrate the ability to communicate mathematical ideas clearly. They will use correct mathematical terminology and proper mathematical notation.

University of Redlands

<https://www.redlands.edu/study/schools-and-centers/college-of-arts-and-sciences/undergraduate-studies/mathematics/program-learning-outcomes/>

A Mathematics B.S. will have experience working with a broad range of mathematical ideas and see a number of contrasting but complementary points of view in the topics (continuous and discrete), techniques (algebraic and geometric), and approaches (theoretical and applied) to mathematics. They will develop a mastery of mathematics at a level that will allow them to be successful in a field requiring mathematical reasoning.

Goal 1. Graduates will develop *mathematical thinking*, progressing from a procedural/computational understanding of mathematics to a broad understanding encompassing logical reasoning, generalization, abstraction, and formal proof.

- Graduates will create and verify their own conjectures, rather than simply using provided formulas, rules and theorems in multiple courses throughout the mathematics curriculum.
- Graduates will prove theorems using the language of mathematics in theoretical junior/senior level courses and present those results both orally and in writing.

Goal 2. Graduates will *communicate* mathematics in both oral and written form with precision, clarity, and organization.

- Graduates will construct clear and well-supported mathematical arguments to explain mathematical problems, topics, and ideas in writing.
- Graduates will give clear and well-organized presentations about mathematical topics that communicate mathematical arguments.

Goal 3. Graduates will apply *mathematical or computational techniques to areas outside of mathematics*. Graduates will extract mathematically relevant information from data, test hypotheses and assumptions, and formulate logical conclusions using mathematical analysis.

Goal 4. Graduates will *explore some mathematical content independently*, drawing on ideas and tools from previous coursework to extend their understanding.

- Graduates will independently extend mathematical ideas and arguments from previous coursework to a mathematical topic not previously studied.
- Graduates will interpret articles or books from the mathematical literature and incorporate ideas and results from the literature in their written and oral presentations.