

A *REAL**



Summer Abroad Experience

at the **University of Cantabria**, Spain

* Research, Explore And Learn

PROGRAMS

Research in Biotechnology

Physics in the 21th Century

Spanish Language and Culture

4-week courses + 4-week research practicum

Courses offered in English

Groups of 8-16 students

Housing offered



+info: <http://web.unican.es/summerprograms>

A *REAL* Summer Abroad experience at the University of Cantabria

The University of Cantabria (UC) is a dynamic medium-sized University, just like the city which hosts the Institution, Santander, on the northern Spanish coast. The REAL (for Research, Explore, And Learn) Summer Programs, centered on peer academics and research, and within its most prestigious research institutes, offers international students the possibility of combining an exciting study abroad experience with a hands-on research practicum led by renowned research teams.

The offer combines a high-quality academic agenda in two different scientific areas (Biotechnology and Physics) with an optional common program in Spanish Language and Culture including Spanish Grammar and Conversation, as well as classes on Spanish History, Arts, and Gastronomy. In addition, the programs include several touristic visits and offer a series of optional excursions, giving the students the opportunity to explore Spain's fascinating northern coast.

Image: Manuel I. Gonzalez-Carrero



The Programs are structured in two parts. In the first four weeks, students will receive their choice of courses. The second four weeks will be devoted to practical work embedded in research groups within the Research Institutes that foster each proposed program: The Institute for Biomedicine and Biotechnology (IBBTEC) for the Biotechnology program, and the Faculty of Science and Physics Institute (IFCA) for the Physics program.

Teaching will be in English; no Spanish language knowledge is required. Teaching methodology, far from conventional lectures, will be student-based, encouraging students to explore by themselves, interact dynamically, and work in groups. Courses will include varied site visits and activities.

Academic offer

Students will enroll in one of two offered Programs:

- Research in Biotechnology
- Physics in the 21st Century

Students from both Programs will have the option to enroll in an additional Program:

- Spanish Language and Culture

Research practicum. Courses will be taught during weeks 1 to 4. During weeks 5 to 8, students will join a research team from the Institute fostering the selected program. The research work will depend on the host group and the selected activity, ranging from molecular biology research projects to astronomic data analysis projects.

Extracurricular activities will include full-day visits to Picos de Europa mountains, the fishermen village Castro, and the city of Bilbao including the renowned Guggenheim Museum.

Practical information

Dates: All programs start on May 29, 2017.

Registration online during February 2017 at <http://www.unican.es/en/summerprograms/>

Accommodation may cost around \$40/day in Spanish host families (full board), or \$15/day in shared apartments

Group size: min 8, max 16 students

Fees:

8-week full Program	\$ 5,000
8-week w/o Spanish	\$ 4,000
4-week Program	\$ 3,000
4-week w/o Spanish	\$ 2,000





Research in Biotechnology

A program aimed at teaching undergraduate students the basics of biotechnological research and applications. Contents include fundamentals of modern molecular biology and genome structure, genetic engineering techniques and advanced technology of genomic-level gene analysis in Biomedicine, or biotechnological procedures for animal manipulation and for production of biological molecules of industrial interest. Additionally, several leaders of IBBTEC research groups will introduce the students to the scientific method and present their research fields and teams, who will later host the students for the research practicum.



Courses included:

- Fundamentals of Molecular Biology and Genetic Engineering
- Biotechnology in Medicine
- Industrial Biotechnology
- Research in biotechnology: a case-based approach



Physics in the 21st century

In this course researchers of the Faculty of Science and IFCA will review some of the hot topics of the current research in physics. It will cover the latest advances in our understanding of nature, from the largest scales in Cosmology to the smallest in Particle Physics, including the technology developed around this Science. The course will also describe the advances in nanophotonics and how the research in this field is contributing to the development of technology flowing to many applications in our everyday life.

Main subjects:

- Physics of the Universe: Modern Cosmology.
- The Large Hadron collider: the quest for the Higgs Boson and more.
- Nanophotonics in everyday life.

Spanish Language and Culture

This program is scheduled so that it can be taken in combination with any of the other three. It will include Spanish Grammar and Conversation in the afternoons, sessions on Spanish Art and History including guided excursions to relevant historical sites of Cantabria, and practical Spanish Gastronomy sessions on Wednesday nights. All classes will be taught in Spanish. Several Spanish Language groups will be arranged according to the Spanish level of enrolled students.

Topics included:

- Spanish Language for foreigners
- Spanish History
- Spanish Art
- Spanish Gastronomy

Beato de Liébana



Living in Santander

Image: MatthiasKabel



Santander is a city of about 200,000 inhabitants with a privileged location by the sea and close to the mountains.

Santander is an excellent place to learn Spanish because this is the only official language spoken here.

Its climate is very mild and the whole region offers a diverse landscape with high mountain peaks, rolling green hills and beautiful coastlines. Among its many touristic attractions, the Cantabrian coast is graced with

hundreds of fine white sand beaches and impressive cliffs, and the coast is less than a 2-hour drive from the breathtaking landscapes of the Picos de Europa mountains.

The region preserves important historical remains from the Prehistoric Era, Roman ruins such as those of Julióbriga, medieval settlements such as Santillana del Mar, and several examples of the civil and religious architecture of the nineteenth and twentieth centuries. Cantabria hosts some of the most impressive prehistoric caves in Europe, such as world-renowned Altamira. Just one hour drive away in neighboring Bilbao, is the famous Guggenheim Museum.



Santander can be reached by plane with daily direct flights from Madrid and Barcelona. The Bilbao airport, the biggest of northern Spain, is just one hour drive away. The low-cost airline RyanAir flies from Santander into many European destinations, making it affordable to spend the weekend in places like London, Paris or Rome.



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