



#Stayhome

Join up our new proposal,

# Special Program On-Line 2020



**Atacama  
Immersion**CHILE

**Summer Program**

*6 CREDITS*

[www.atacamaimmersion.com](http://www.atacamaimmersion.com)



Atacama Immersion Chile



@atacamaimmersion



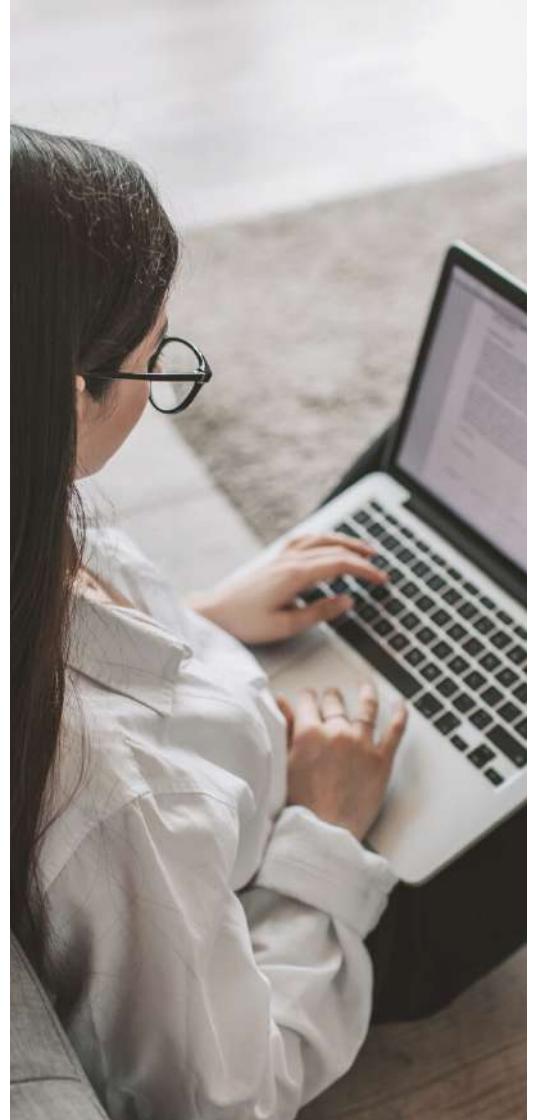
gasaavedra@ucn.cl/ aichile@ucn.cl

# Special Summer Course 2020.

Universidad Católica del Norte through its Program Atacama Immersion Chile is glad to offer a special program due to the current Covid-19 situation around the world.

This program has 2 stages, one with online classes and the second stage is optional, on-site, offered in January 2021.

---



# STAGE 1: ONLINE SESSIONS



from 10th to 28th August

Classes online with UCN professors.

3 hours per day.

6 credits.

- ASTRONOMY (2 credits)

Modern and observational Astronomy

- GEOLOGY (2 credits)

Volcanism in Northern Chile: Origin and Related Risks

- ARCHITECTURE (2 credits)

Architecture and Heritage





## What about Universidad Católica del Norte – UCN- and Atacama Immersion Chile?

UCN was born on May 31st, 1956, therefore becoming the eighth University to be founded in Chile and the third involving a Catholic vocation. With two campus, one in Coquimbo Region, and the main one in Antofagasta Region, a privileged place with the clearest skies and the driest desert in the world.

Atacama Immersion Chile is an educational initiative focused on social equity, integration, and exchange. Through significant experiences of learning and international cooperation, it seeks to contribute to the integral formation of people, academic participation, and get closer links with the social and productive world.

### Course Objective

The course, designed to deliver a significant learning experience from a global engineering approach, is based on the geoscience of the driest desert of the world, the Chilean Atacama desert. Students will learn theoretical knowledge combined with hands on activities and site visits related to the volcanic activity, observational astronomy, and the main architecture of the region. The development of technologies, research and economic activities in the Atacama region and Chile will be studied and students will learn how the impact of the work of different disciplines and their contribution drives the economy of this region and of Chile.

# ASTRONOMY MODERN AND OBSERVATIONAL ASTRONOMY

## Goal:

To provide the students with an introduction to astronomy from a modern perspective.

Basic concepts for the current understanding of the Cosmos from the beginning of astronomy to the present understanding of the Universe will be described. Finally, basic concepts of observational astronomy will be taught and practical experiences in the field will be carried out.

## Contents :

### Module I Introduction to Astronomy

- Astronomy in ancient times
- Modern astronomy: from Galileo to 21st century
- Radio astronomy and Infrared astronomy
- Modern observatories

### Module II Celestial Bodies

- The Solar System
- The stars, types and evolution
- Star clusters
- Nebulae and interstellar medium
- The Milky Way

### Module III The Universe at Large Scale

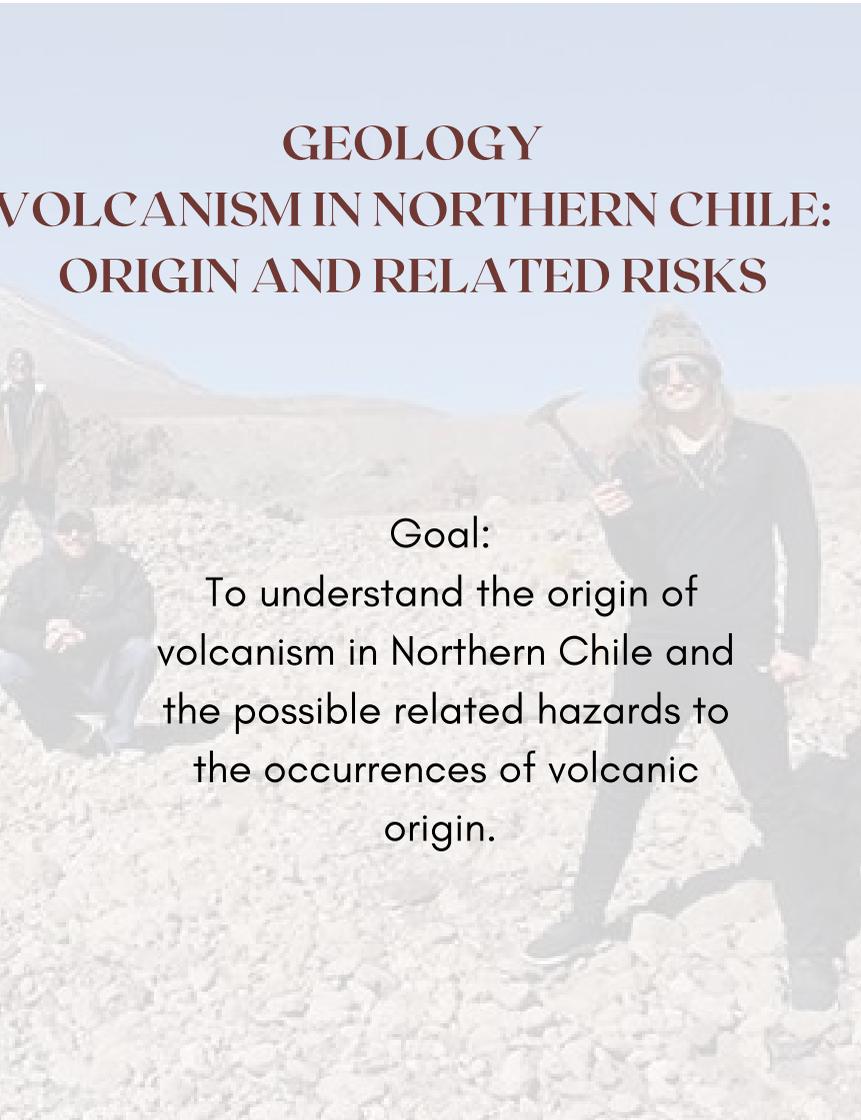
- Galaxies
- Active galaxies
- Galaxy clusters
- Big Bang Theory

### Module IV The Nature of Light

- Electromagnetic waves
- The electromagnetic spectrum
- Wave particle duality

### Module V Concepts of Observational Astronomy

- Land movements and time
- Astronomical coordinates
- Influence of the atmosphere
- Types of telescopes and their use



# GEOLOGY

## VOLCANISM IN NORTHERN CHILE: ORIGIN AND RELATED RISKS

### Goal:

To understand the origin of volcanism in Northern Chile and the possible related hazards to the occurrences of volcanic origin.

### Contents:

#### Module I

Volcanism in the world; main related processes, types of volcanic activity

#### Module II

Volcanic products, types of eruptions and types of volcanic edifices

#### Module III

Volcanism in Northern Chile and risks related to volcanic eruptions

# ARCHITECTURE

## ARCHITECTURE AND HERITAGE

### Goal:

The aim is to promote the conservation and (re) use of buildings and sites of the Modern Movement, to promote and disseminate the development of appropriate techniques, methods of conservation and (re) use, to explore and develop new ideas for the future of a sustainable built environment, based on the desert architecture and practical experiences including field visits to iconic sites in the area.

### Contents

#### Module I Desert Landscape

- Atacama Landscape Identity
- Intangible Heritage
- Between ocean and desert
- Architectural Adaptation

#### Module II Introduction to the Modern Movement

- Modern theories and history of architecture
- The significance of heritage values
- Chile's Preservation of iconic modern heritage
- Antofagasta's Preservation of modern heritage
- Social Housing tangible Heritage (local context)

#### Module III Conservation strategies

- Chilean risk to natural catastrophes
- Memories and Conservation strategies
- Building techniques for reconstruction
- Social perception of Chilean built heritage

# STAGE 2 (optional):

## On-site.3 weeks

### January 11th to 29th, 2021-

### Antofagasta and San Pedro de Atacama

This stage includes:

- Classes and evaluations in a classroom
  - Complementary Courses
  - Field Coordinator
  - Assistant Professor (or tour guide if applicable)
- City tours
  - Transfer to all locations
  - Snacks in field activities
  - Tickets to Museums, parks and others
  - Accommodation
  - Breakfast



# Field trips

A group of hikers with backpacks is walking away from the camera on a dirt path in a desert landscape. The path is bordered by a low stone wall on the right. The terrain is arid with sparse, dry vegetation. In the background, there are large, rugged mountains under a blue sky with scattered white clouds. A semi-transparent tan circle is overlaid on the left side of the image, containing the text.

- Antofagasta
  - Visit to Paranal Observatory
  - Visit Ghost Towns (saltpeter)
  - Visit Mejillones Port
- San Pedro de Atacama:
  - Lascar Volcano trekking
  - Moon Valley
  - Tatio Geysers
  - Altiplanic Lagoons
  - Astronomic Tour
  - Caracoles street and surroundings