

Tour: MEDITERRANEAN STEM

Destination: Sicily, Italy & Valetta, Malta

Specialization: Geology, Volcanology, Marine Science & Geography

MEDITERRANEAN STEM: SICILY & MALTA						
Day		Morning	Afternoon		Evening	
1	Sat		Overnight travel to Europe			
2	Sun	Arrive Catania, Sicily, clear Customs and transfer to Hotel	Catania City Tour	Siracusa Aquarium & Master Class	Welcome, Safety & Orientation + Dinner	
3	Mon	Ciane River Cruise	Museum of Papyrus	Orange Plantation Master Class	Pizza Cooking Class	
4	Tues	Mount Etna + Geology & Volcanology Master Class	Museum of Lava & "Journey Into the Earth" Master Class		Farewell Sicily Dinner	
5	Wed	Travel to Malta; transfer to hotel	Majjistral National Park Tour	Olive Oil Master Class	Local Dinner & Valetta by Night	
6	Thur	Ghadira Nature Reserve Birding & Swimming	Tour of Mdina	Natural History Museum	Packed Dinner, Sunset Walk & Night Sky Master Class	
7	Fri	Xrobb I-Ghagin Nature Park - Fieldwork: Rocky Shores	Ghar Dalam Guided Cave Tour & Master Class + Museum		Beach BBQ	
8	Sat	Fieldwork: Inland & Coastal Habitats	Underwater Safari Cruise & Marine Bio Master Class		Farewell Dinner	
9	Sun	Depart Malta for Home				







As with all sample itineraries, please be advised that this is an 'example' of a schedule and that the activities and hotels shown may be variable dependent upon dates, weather, special requests and other factors. Itineraries will be confirmed prior to travel.





Sicily... Embark on an unforgettable student trip to Sicily, an island brimming with natural wonders and

scientific intrigue. Famous for its breathtaking landscapes and unparalleled biodiversity, Sicily provides the ultimate living laboratory. Explore the towering majesty of Mount Etna, Europe's most active volcano, and witness firsthand the fascinating processes of volcanology and geology. Walk along pristine coastlines and delve into marine ecosystems rich in species diversity, learning about the delicate balance of conservation and sustainability. Sicily's unique Mediterranean climate offers a perfect backdrop for ecological studies, fostering an appreciation for the interconnectedness of nature and science.

Beyond its natural marvels, Sicily boasts a deep cultural history intertwined with scientific discovery. Students will have the chance to visit archaeological sites revealing ancient engineering feats and early understandings of astronomy. With local experts guiding the way, this tour promises an enriching experience that combines hands-on scientific exploration with cultural immersion. From volcanic eruptions to marine ecosystems, each stop on this educational journey is a stepping stone to understanding the wonders of our planet, inspiring the next generation of scientists to think critically and creatively. Ready to go?



<u>Day 1</u> Overnight flight; meals in flight

<u>Day 2</u>

Breakfast in flight, lunch on own, dinner in Sicily

Groups will generally arrive Sicily in the late morning or early afternoon. Upon arrival we'll transfer to our hotel, check in and get settled, and have our Welcome, Safety & Orientation Meeting. Afterwards, we'll set off for a Catania City Tour followed by a visit to the Aquarium and then a Welcome Dinner at our hotel.



Sample Hotel: Le Dune Sicily - Le Dune Sicily Hotel lies in an enchanting place between the golden sand of de La Plaia beach and a beautiful small Maritime pine forest. It perfectly fits into the landscape's colors with its Mediterranean style, set in a magnificent backdrop fully respecting the surrounding nature. The hotel has 57 rooms equipped with amenities such as air-conditioning, satellite televisions, mini-bar, hairdryer, telephone, fax and internet access. Le Dune Sicily Hotel was created to make its guest feel at ease in any situation since it combines comfort and tranquility with efficiency. It has wide green areas, a breath-taking scenic terrace, a big swimming pool with sun lounge, bar, restaurant with typical Sicilian cuisine and international dishes and beach service. Breakfasts and evening meals are taken at the hotel daily. Please note that this hotel has outdoor corridors so may not be suitable for all school groups.











Important Note: Please note that in most hotels, dinners include tap water as a beverage. If groups would like additional beverages, these are available however must be paid for by the individual members at the time of service.

Catania City Tour – After getting settled in your hotel, we'll depart to explore the city. Catania has been a prize of many empires over the centuries, from Greeks to Romans, Arabs to Normans, Spaniards and more. Catania is Sicily's second-largest city, with a population of around 300,000. It lies on the Ionian Sea, under the shadow of Mount Etna, or "A Muntagna" as the locals refer to it. Mount Etna is ever-present and has to a large extent shaped both the history and the actual existence of Catania. On several occasions, volcanic eruptions destroyed the city, the most devastating of which happened in the 17th century. In 1669 Catania was covered in lava and then, just 24 years later in 1693 an earthquake shook the town down to its foundations.





Siracusa Aquarium & Master Class — Get to know the marine life of the Mediterranean at the Aquarium of Syracuse. In the tanks, see recreations of the marine biotypes found in the sea that laps the shores of the province; also view some of the most beautiful shells of the Mare Nostrum. Tanks reproducing the tropical aquatic life, divided into two sectors. The first concerns the fish and tropical plants that live in fresh water (African Great Lakes Amazonian rivers); the second is fish and marine invertebrates, characterizing strange shapes and sizes. While here, groups will participate in a lab activity (upon availability). Teachers will select one option prior to travel.

Marine Environmental Education
Global Climate Change and Ocean Acidification
The Fish of the Strait of Messina; from Anatomy to Classification

After our aquarium visit, we'll head back to the hotel for our Italian Welcome Dinner and a great night's rest.

<u>Day 3</u> Breakfast & dinner included; lunch on own

Good morning Sicily! After breakfast served at our hotel, today we'll get a firsthand look at the Ciane River Natural Reserve, learn all about Papyrus and discover a unique Orange Plantation.

Ciane River Natural Reserve & River Cruise – The Ciane River, the saltworks, and the papyrus plants all make the natural reserve in Siracusa a remarkable place to visit. In a little area near Siracusa, you'll find a natural reserve that protects and preserves a site interlaced with the town's history, ancient legend and cultural tradition. This area has always been a place for ritual celebrations, worships and legends since the 8th century BC when it was first discovered by Greek settlers. An interesting part of this reserve is the saltworks which were built at the beginning of the XVII





century. The saltworks, evidence of a typical Sicilian tradition that has almost disappeared nowadays, stretch for 50 hectares and are now a great place for waterbird-watching.







More fascinating is the presence of the papyrus plant whose appearance in Sicily is still questioned to this day. Papyrus, originally a plant from North Africa, now flourishes here and Sicily is the only place in Europe where it thrives as a wild plant. This river plant was valuable because working its pith produced the ancient equivalent of paper, the very "papyrus" from which the word "paper" in many European languages (paper, papel, papier...) derives its name. An erudite Syracusan even managed, in the 18th century, to rediscover the secret of "papyrus" production, which has continued since then in Syracuse both for scholarship and for the production of souvenirs and has reached such a level of competence that the Papyrus Museum of Syracuse, our next stop, is also entrusted with the restoration of precious and fragile ancient Egyptian papyri.

While exploring by boat, we'll also have an opportunity to investigate the common reed - Phragmites Australis, and the aquatic iris – Iris Pseudacorus. Our boat captain will be explaining the environment while we glide through the natural reserve.

Later, we'll visit both the Museum of Papyrus and the Catania Orange Plantation before having a pizza culinary class!

The Museum of Papyrus - Saverio Landolina rediscovered papyrus in the 18th century and began the manufacture of paper at this plant for all to enjoy. At the museum, you'll get to see a fascinating multimedia exhibition on the history of papyrus and its use. In addition to a section dedicated to ancient papyrus scrolls from the 15th century B.C. to 8th century A.D., the museum also displays objects



made of papyrus in Africa (such as boats, ropes, mats) and items used to make papyrus paper and to write on it in ancient times. This is truly a unique center for the study of papyrus, its production, preservation, and restoration.



Catania Orange Plantation – The Orange Plantation is an eco-touristic activity with the goal of spreading the culture of the ancient Sicilian farming traditions, focusing on cultivation of the orange. To completely understand the plantation, the visit will be conducted by an agronomist who will introduce the peculiarities of the trees and their fruits as well as the growing process, from irrigation to collection.

Pizza Cooking Class – We are in for a treat this evening as we learn to make Italian Pizza with a local chef. Dinner will be our creations so make something great!





Rise and shine Italy! After breakfast, we're off to explore Mount Etna! In Greek Mythology, the deadly monster Typhon was trapped under this mountain by Zeus, the god of the sky and thunder and king of gods, and the forges of Hephaestus were said to also be located underneath it. When planning your travel, please know that for travel during January through March, Mount Etna may be enveloped in snow and limit potential activities.







Mount Etna & Geology Master Class - Mount Etna is an active stratovolcano on the east coast of Sicily, close to Messina and Catania. It lies above the convergent plate margin between the African Plate and the Eurasian Plate and is the tallest active volcano on the European continent, currently 3,329 m (10,922 ft) high, though this varies with summit eruptions. It is the highest mountain in Italy south of the Alps and covers an area of 1,190 km2 (459 sq. mi) with a basal circumference of 140 km. This makes it by far the largest of the three active volcanoes in Italy, being about two and a half times the height of the next largest, Mount Vesuvius. Only Mount Teide in Tenerife surpasses it in the whole of the European–North-African region.

Mount Etna is one of the most active volcanoes in the world and is in an almost constant state of activity. The fertile volcanic soils support extensive agriculture, with vineyards and orchards spread across the lower slopes of the mountain and the broad Plain of Catania to the south. Due to its history of recent activity and nearby population, Mount Etna has been designated a Decade Volcano by the United Nations. In June 2013, it was added to the list of UNESCO World Heritage Sites.

While here, provided it is safe to do so, we'll explore the craters of Sartorius mounts located on the north side of Etna with a geologist and naturalist guide. We'll also have the opportunity to explore one of the caves, fully equipped with protective helmets and safety ropes, to understand the lava flow.

In the afternoon, we'll visit the Museum of the Mula!

The Museum of Lava – The Mula, The Museum of Lava and Volcano is a permanent exhibition on volcanism and human activities. The museum offers a unique opportunity to go to the heart of a volcanic eruption, an event closely linked with the very geological history of the Mediterranean area. A modern museum, the Museum of Lava boasts more than 1500 square meters of exhibitions with a goal to educate, appreciate the beauty and promote the conservation of the planet.



Journey Into the Earth Master Class - The 'Journey into the Earth' is a guided tour to discover how volcanoes are born, how and why earthquakes occur, and explain the theories regarding the plate tectonics and the continental drift through simulations and videos, multimedia displays, as well as a 3D cinema delivering spectacular visual effects. Accompanied by an expert, students review simulations of lava flows, puffs of geysers and gorges carved into the basalt







lava and gain an understanding of why and how the volcanoes erupt. Particular attention is paid to education of volcanic and seismic risk with the project EDURISK Civil Protection. The Museum is also home to a first-class planetarium.

Afterwards, we'll transfer back to the hotel. In the evening, we'll have dinner and then get packed up. Tomorrow morning, we are off to Malta!

Day 5

Breakfast & dinner included; lunch on own

Good morning Sicily! This morning we will take an early flight through the Mediterranean to Malta (some schools may opt to ferry over (6.5-hours) also.

Mal+a... With the Mediterranean Sea lapping at its shores, its striking coastline, picturesque countryside

and a rich history, Malta offers an unforgettable destination. The beaches range from enchanting rocky coves where you can feel like you're the only person in the world, to beautiful stretches of golden sands populated by Hermit Crabs and Loggerhead Turtles. The Mediterranean Sea is sapphire blue and creates remarkable sunsets to watch as you enjoy the view from one of Malta's seafront promenades.







Malta, Gozo and Comino are located in the middle of the Mediterranean Sea, just south of Italy. The Maltese population is distributed on three of the 18 islands that form the Maltese archipelago, a population of approximately 450,000 people. The geographical diversity of the islands is quite remarkable if we consider the small size of the Maltese territory: while Gozo and Comino have green and luxuriant vegetation and appears somewhat wild, Malta is densely urbanized, characterized by dry landscapes and hosts a variety of succulent plants.

In this amazing area, mysterious remains and megalithic temples of prehistoric ages are found next to military buildings and fortifications erected by the Knights of the Order of Saint John. Traces of the British presence on the islands are still present and range from driving on the left to the military bases used during the Second World War. Malta's capital city, Valletta, has been entirely declared a UNESCO World Heritage Site, Gozo is a rural island, and Comino was the Knights of the Order of Saint John's game reserve and served as a military outpost to protect the sister islands from piracy and invaders. This interesting geography of Malta, its mild climate and its millenary heritage, combined with the hospitality of its people, make the Maltese archipelago a brilliant destination in the Southern Mediterranean.

On arrival, we'll meet our new local team, get checked into our hotel and head out for our first activity.

Sample Hotel: The Alexandra Hotel - The Alexandra Hotel Malta lies in the center of St. Julians, Malta's all year-round resort. The Alexandra Hotel offers a total of 145 rooms, all comfortably enhanced with a balcony, some of which





overlook the hotel's pool, while others situated on the upper floors have the luxury of distant sea views. Being just 5 minutes away from the beach, shopping centers, supermarkets, a yacht marina, cinema, bowling center, restaurants and many other facilities, one cannot ask for more.







II-Majjistral Nature & History National Park – This is a superb opportunity to explore Malta's nature and history. We'll start with a guided 5km nature walk in Malta's only natural National Park located in Mellieħa. The park extends from Golden Bay to Anchor Bay and inland towards Manikata with a variety of habitats such as garigue, boulder scree, sand dunes, coastal garigue, and steppe. The Park has taken the name of the northwest wind/region: "majjistral" in the Maltese language and contains a number of historical and archaeological sites.



Next stop – Olives!

Olive Oil Master Class - Today we will also learn about the Maltese Olives, the Olive Oil production and the history and cultivation of the Maltese Olive Trees as we visit Sammy's Olive Tree Gardens in the hilltop village of Wardija. Schools will tour the olive press and grove, listen to an explanation about the process of olive oil by Sam - a professional in his field. Then we will taste the oil with some fresh Maltese bread, local cheeses, sun dried tomatoes and olives all marinated to perfection.



All participants will take home a bottle of the Wardija Olive Oil.

Valletta by Night – This evening we'll enjoy dinner at our hotel and then set off for the Valletta Waterfront. The Valletta Waterfront is the gateway to Malta's capital city, a city "built by gentlemen for gentlemen." In fact, as one of the most successful Mediterranean ports, the Port of Valletta welcomes more than half-a-million cruise passengers into this open-air museum. All this comes with an added bonus – the majestic setting within the Grand Harbor, a natural deep-water port and for many thousands of years, the epicenter of Malta's maritime activity. Experience:

- ✓ Nineteen historical 250-year-old warehouses built by Grand Master Pinto at the height of the baroque period.
- ✓ A walk stretching along the water's edge and the historical Quay Wall where the Knights of St John and European merchants used to unload their wares.
- ✓ The impregnable Old Power Station that serves as a testimony to the heroic history of the Grand Harbor.





✓ The Forni Stores, dating back to 1626 and constructed by Grand Master de Vilhena.

Day 6

Breakfast & dinner included; lunch on own

Hello Malta! Today will be another full day as we go on a birding trek and swim in the morning, discover natural history in the afternoon, and spend the evening star gazing!

Ghadira Nature Reserve Birding Field Trip - Located in the north of Malta, Għadira Nature Reserve is a seven-hectare reserve comprised of brackish lake and saltmarsh habitat. Due to the dry climate in Malta, permanent areas of inland water are rare, making the Għadira wetlands an extremely important habitat for birds and other wildlife. Around 140 species of migrating birds are seen annually. Most of the birds seen are migrants, stopping to rest and refuel before continuing their long migration journeys.







Next, we'll travel to Mdina.

Mdina – Visit the Old Capital City - inhabited and possibly first fortified by the Phoenicians around 700 BC, calling it Maleth. The region benefits from its strategic location on one of the island's highest points. Under the Roman Empire, Malta became a Municipium and the Roman Governor built his palace in Mdina. Tradition holds that the Apostle St. Paul resided in the city after his historical shipwreck on the islands. Much of its present architecture reflects the Fatimid Period which began in 999 AD until the Norman conquest of Malta in 1091 AD. The Normans surrounded the city with thick defensive fortifications and widened the moat, separating it from its nearest town, Rabat. Malta passed to the Order of Knights of the Hospital of St John of Jerusalem in 1530 AD. Mdina hosted the public ceremony in which each Grand Master swore an oath to protect the Maltese Islands and the rights of his subjects.

While in Mdina we'll visit the Museum of Natural History.

The National Museum of Natural History - This national repository of biological specimens represents both life and earth sciences. The Museum houses some historically important collections, with the reference collection holding over 10,000 rocks and minerals, over 3,500 birds, eggs and nests, 200 mammals, over 200 fish species, plus thousands of local and exotic shells and insects. The museum focuses mainly on the faunal aspects of natural sciences and the current displays cover themes such as human evolution, insects, birds, habitats and marine ecosystems. The Geology and Paleontology displays are of particular merit and are of both local and international interest. The museum also houses a reference library on natural sciences.

This evening, we will get our packed dinners and go in search of stars!

Sunset Walk & Night Sky Master Class – In conjunction with the Astronomical Society of Malta, schools will enjoy a nature walk at sunset time followed by a guided astronomy session. This activity includes use of a Dobsonian Telescope





and is orchestrated by members of the **Astronomical Society** as well as a nature guide. (NOTE – the activity may not be held if skies are overcast or rainy.)

Day 7

Breakfast & dinner included; lunch on own

Rise and shine Malta! Today is going to be another amazing day. We'll start with Rocky Shores fieldwork, have some amazing caving in the afternoon, and end with an awesome beach BBQ! Our focus will be split between 'Nature Trust Malta' and 'Rocky Shores' fieldwork where investigation will be conducted and supervised by Malta University & College lecturers. During our day, students will be served with mineral water and fresh fruits and a stop for lunch. A licensed guide will also be joining us to give a commentary on the various historical places and other places of interest which we will be seeing during the day.

Xrobb I-Ghagin Nature Park, Nature Trust Malta – Xrobb I-Għaġin Nature Park and Sustainable Development Centre consists of over 155,000 square meters on a jutting peninsula with scenic views in the south east of Malta within the locality of Marsaxlokk. The purpose of the project is education, demonstration and research in sustainable environment solutions with the overall objective of increasing the use of renewable energy, wastewater management and safeguarding biodiversity. Situated in the south of the island this is the first project of its kind to combine these three aspects. Attributes include:

Renewable Energy: The site serves as a research area on renewable sources of energy while producing energy from wind turbines and photovoltaic panels on site.

Water and Wastewater – There is optimal rainwater harvesting and practical use of both treated wastewater and collected rainwater.



Biodiversity – Protection of existing natural habitats, namely garigue, steppe and endemic cliff communities as well as afforestation of over 15,000 trees with indigenous trees and shrubs within degraded areas.

Energy efficiency measures and use of natural daylight and ventilation within the buildings to ensure that sustainable living is further promoted.



Rocky Shores Fieldwork - This field session will take the form of the following exercise:

• A brief walk on the shore to investigate different shore zones, zonation, biological zero and other features and phenomena discussed during the tour.





• A general collecting exercise to compare the biota of rock pools with that of the 'open' shore. At the same time participants will familiarize themselves with the commoner biota of the two habitats. The output of the exercise will be a 'species list' (in general terms not necessarily down to actual species) and an estimate of the abundance of each 'species' in the two habitats.

Ghar Dalam (Cave of Darkness) - Ghar Dalam is a prehistorical cul-de-sac located on the outskirts of Birżebbuġa containing the bone remains of animals that were stranded and subsequently became extinct on Malta at the end of the Ice age. Dwarf elephant, hippopotamus, deer and bear bone deposits found there are of a different age: the hippopotamuses became extinct about 180,000 years ago, while the deer species became extinct much later, about 18,000 years ago. It is also here that the earliest evidence of human settlement in Malta, some 7,400 years ago, was discovered.







Later, we'll return to the hotel to relax, refresh and then we are off to the beach for a Malta BBQ!

Day 8

Breakfast & dinner included; lunch on own

Rise and shine Malta! Today is our last full day in Europe so we'll make sure it is fantastic! We'll start with Inland & Coastal Habitats fieldwork, followed by an underwater adventure this afternoon.

Inland & Coastal Habitats Fieldwork - This morning's investigation will be conducted and supervised by Malta University. This exercise will consist of a site visit to Buskett Gardens and San Anton Gardens, followed by a visit to Ghajn Tuffieha. During this session, participants will:

- Familiarize themselves with the main species in the woodland and in the garrigue area, drawing up identification keys for the main species in each area visited. The objective being to acquaint participants with the main diagnostic structural features for identification of plants.
- At Ghajn Tuffieha, students will be able to view and discuss adlittoral coastal habitats, beach habitats (including *P. oceanica* banquettes), rocky shore habitats, distribution of benthic habitats as seen from on top of the cliff, and the Rdum Majjiesa/Ras ir-Raheb marine protected area.





Underwater Safari Master Class – This activity adds a new dimension to the phrase "Visiting Malta". Now you can also see what lies beneath the sea that surrounds St. Paul's Islands or discover the wonders of the world beneath the sea around the scenic coasts from the unique purpose-built Underwater Safari. Each safari location has been carefully chosen to ensure maximum comfort and provide optimum viewing interest. From the observation keel you will see breathtaking underwater sights - diverse species of fish darting in and out through dramatic sea-bed formations, the occasional octopus languidly looking for a snack or a more comfortable cave to nap in, swaying forests of multi-hued



algae, and much more. You will be gliding through and identifying the marine life that inhabits these Maltese waters - the clearest waters in the Mediterranean. Of course, we will be led by a Marine Biology specialist!

Afterwards, we will have our Farewell Dinner and begin to get ready for tomorrow's flight home.

<u>Day 9</u> Breakfast included but dependent upon departure time

Good morning Malta! After breakfast we'll pack our bags, check-out of our hotel and make our way to the airport. We'll start to say goodbye to this fine city as we wave to our new friends and leave, taking away memories that will last a lifetime.







MEDITERRANEAN STEM

Minimum Booking Numbers: 20 students

What's Included: Round-trip international flights

7-nights' accommodation: 3-nights in Sicily, 4-nights in Malta

Breakfasts & dinners starting with dinner on arrival and ending with breakfast on

departure (dependent upon flight times)

Transportation to activities shown in Itinerary European flight/ferry from Sicily to Malta

Catania City Tour

Siracusa Aquarium & Marine Biology Master Class

Ciane River Cruise Museum of Papyrus Orange Plantation

Pizza Cooking Class with a Local Chef

Mount Etna with Geology & Volcanology Master Class Museum of Lava + "Journey into the Earth" Master Class

Majjistral Nature & History National Park Tour

Olive Oil Master Class Valetta by Night

Ghadira Nature Reserve & Swimming Tour of Mdina, Ancient Capital City Natural History Museum of Malta Sunset Walk & Night Sky Master Class

Xrobb I-Ghagin Nature Park Fieldwork: Rocky Shore

Fieldwork: Inland & Coastal Habitats

Ghar Dalam Guided Cave Tour, Museum & Master Class

Beach BBQ

Underwater Safari Cruise & Marine Biology Review

Personal Tour Director

What's Not Included: Fully comprehensive insurance (mandatory)

Baggage costs, pay directly to airline if required

Baggage handling - everyone should be able to pull / load their own bag

Transfers to/from home airport Lunches in destination; pay on own

Meals other than ones provided for the entire group (we are generally able to

cater for allergy conditions and vegetarians only)

Transportation for activities not shown in the itinerary
Cost of personal passports, visas or visa waiver fees
Cost of inoculations or medication required for travel
Sightseeing / Entertainment not shown in Itinerary
Hotel incidental deposits & bills – mini-bar, movies, etc.
Gratuities – drivers, hotel services, local guides, tour director

Credit card fees if individuals wish to pay via credit card instead of ACH

As always, our staff are always available to you to answer any questions you may have regarding programming. If we may serve you in any way, please do not hesitate to contact us.





