



15 - 24 July
University of Malta
Malta

steam

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welcome to steam

STEAM is a 10-day intensive summer school in science communication. We introduce an innovative form of education that injects the Arts into classical STEM (Science, Technology, Engineering, and Mathematics). Interactive experiments and informal learning with the use of creativity and arts are the key ingredients of our approach. Our ultimate goals are to improve science awareness and develop informed opinions, increase student uptake of STEM careers for high-level jobs, stimulate the socio-economic wellbeing of partner countries, and enhance the transferable skills of current researchers.

The Host: University of Malta

The University of Malta (UM), is the highest institute of learning in Malta. Its Msida campus accommodates approximately 11,500 students annually, including 1,000 international students from 92 countries. The university is a centre for academic research and higher education in the disciplines of the arts, sciences and humanities. Its mission is to serve the aspirations of the Maltese people through locally and globally significant rese-

arch and education.

The university has been involved in various EU-funded projects and has attracted over €44 million from the European Regional Development Fund and the European Social Fund since 2008. It is also represented in numerous European and international university networks and groups which it is eager to promote. ✨



The Quad at the heart of the UM Msida campus.

Malta: Island of Culture

Made up of three islands – the main island and the smaller islands of Gozo and Comino – Malta has an area of 316 km². These islands have a population of over 400,000, making Malta the 4th most densely populated country in Europe. Located in the centre of the Mediterranean, between Italy and Africa, the archipelago experiences a typical Mediterranean climate with an average of 300 days of sunshine per year.

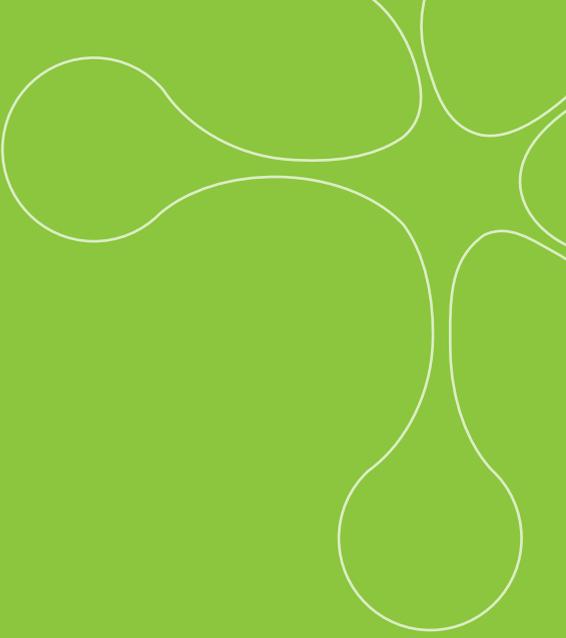
Malta has a rich history with many rulers, including the Romans, Normans, Knights of St John and the British. In 1964 it became an independent state and it joined the EU



Luzzu boats - traditional fishing boats of Malta.

in 2004. The official languages of Malta are Maltese and English and you will find English is commonly spoken. ✨

speakers



The STEAM consortium brings together outstanding higher education institutions and science communication companies. Through the exchange of best practice, an intensive study programme has been developed to train students and researchers to engage with the public.



Edward Duca

University of Malta, Malta
Think Magazine Editor, Science in the City (Malta) Festival
Manager, Innovation Communication Lecturer

Edward is the Publications Developer and Editor at the University of Malta for the research magazine THINK, that has reached three million online views. He is a PhD graduate in Genetics (University of Edinburgh) and a freelance science writer, editor and communicator. He has written for several local and international organisations including The Times of Malta, Science and Nature.

In Malta, he founded Malta Cafe Scientifique, which is the public outreach arm of the Malta Chamber of Scientists. Through

organising the annual science and arts festival Science in the City (visited by over 20,000 per year), he aims to bridge the gap between the sciences and arts. He believes the sciences and arts can benefit each other by providing inspiration, bringing new audiences to cultural events and pushing the boundaries of art into new fields, while shining a critical lens on science. He aims to continue setting up projects that communicate science to the public to create a scientifically literate society. ✨

Amanda Mathieson

Imperial College London, UK
Engagement Assistant - Capacity Building



Amanda is an Engagement Assistant at Imperial College London. She previously worked at the University of Malta, where she project managed the initiatives STEAM and CREATIONS. Through these projects, she has designed and coordinated public engagement events, developed STEAM activities to be implemented in schools, delivered workshops in science communication and evaluated all of these projects for impact. Amanda has a BSc in Botany and an MSc in

Science Communication, both from the University of Manchester.

In addition to experience in public engagement and science communication theory, Amanda is a professional photographer, graphic designer, videographer and animator, and has previously worked for the NHS, communicating medical research. Her main interests include the use of engaging visuals for science communication and the potential for games as an education tool. ✨



Alexander Gerber

Rhine-Waal University, Germany
Professor and Course Director for Science Communication

Alex is a professor of International Science Communication at Rhine-Waal University, Germany, where he coordinates a fully-fledged 3-year Science Communication degree programme in English. His research mainly focusses on socio-political dimensions of science-society issues.

Calling for 'open science communication' he emphasises the shared responsibilities of the different stakeholders of science. The

degree programme at Rhine-Waal University puts less emphasis on training basic technical/ journalistic skills such as writing or storytelling, and more on strategy and management, evaluation and even entrepreneurship. Additionally, students are trained in the methods of approaching science communication as a research discipline. Alex is an elected member of the governing boards of the science communication world association PCST and Europe's grassroots organisation for research, EuroScience. ✨

Menelaos Sotiriou

Science View, Greece
Coordinator of Learning Science Through Theatre Initiative



Menelaos is a science writer and communicator with a background in applied mathematics and 17 years of international work experience. He holds a masters in Total Quality Management and currently is working in the field of science communication providing training to research teams.

His main research focus is the communication of scientific research to the wider public. He is especially interested in science education and has realised numerous national

and international projects in the field. He is the initiator of a national educational project called "Learning Science Through Theatre" (www.lstt.eu) and is collaborating with the National and Kapodistrian University of Athens on research initiatives. He is the National Coordinator of the Greek Student Parliament on Science. For the last 16 years he has project managed and organised European and national projects for several institutions, mainly in the areas of new and innovative technologies. ✨

Freddie Oetker

STEAM Alumni
Volunteer



Freddie Oetker is a master's student at the University of Amsterdam. She has a degree in Science Communication and Bionics during which she has worked with several Horizon 2020 projects. She is currently pursuing a master's degree in Forensic Science. During her bachelors, Freddie focused on

videography and bionics, and developed an autonomous gardening robot for her final thesis. During her masters she is focussing mainly on cybercrime and technology law. Freddie has been with the STEAM summer school since its first time in 2016. ✨



Latasha Barabara

Science in the City Intern
Volunteer

Latasha Barabara is a University Student studying for a bachelor's degree in Medical Biochemistry. She is also the President and co-founder of MBSA; the Medical Biochemistry Students' Association at the University of Malta. She has previously taken part in STEAM for Secondary Schools around

Malta, Science in the City at Valletta, and at Notte Bianca but was so intrigued by the experience that she is now following a Science Communication internship at the Centre for Entrepreneurship & Business Incubation at the University of Malta. ✨

Isabelle Cassar

Science in the City Intern
Volunteer



Isabelle Cassar Fiott is a recent graduate of UWC Mahindra College in India and is currently on a gap year. As an activist she has spent the past year working with a number of NGO's including the recently formed coalition Voice For Choice, Moviment Graffiti and MGRM, with whom she partnered up with, in

order to raise awareness on under represented minorities within the LGBTQI community, specifically those who consider themselves to be gender-fluid. She is a Science Communications intern at the Centre for Entrepreneurship and Business Incubation at the University of Malta. ✨

the programme

DAY	TIME	MON 15	TUE 16	WED 17	THU 18
Morning Session	9:00 am				
	10:00 am	Icebreakers & Introduction	Dialogue Workshop	Create & Act	Communications & Branding
	11:00 am				
Lunch	12:00 pm				
Afternoon Session	1:00 pm	RRI Workshop	Audiences Workshop	Create & Act	Communications & Branding
	2:00 pm				
	3:00 pm	Evaluation	Evaluation	Evaluation	Evaluation
Evaluation & Project Work	4:00 pm		Project Work	Project Work	Project Work
	5:00 pm				
Social Events & Free Time	6:00 pm				
	7:00 pm				
	8:00 pm	Dinner	Science Cinema	Valletta Tour	Escape Room
	9:00 pm				
	10:00 pm				
	11:00 pm				

Where should I go?

Every day transport will be provided from in front of the 5-Senses Apartments in Msida. The coach will leave at 8:20am each morning unless stated otherwise. Those making their own way to University should go to the Dun Mikkiel Xerri Lecture Centre and locate room 216 on the 2nd floor. Any questions, please contact Amanda on +44 7399 345011.

FRI 19	SAT 20	SUN 21	MON 22	TUE 23	WED 24
Project Management	Presentation Skills		Expert Feedback		Reflection Session
Evaluation Workshop	Presentation Skills	Social Excursion	Promotion	Final Preparation	Networking Lunch
Evaluation			Evaluation		
Project Work			Project Work		
Pub Night	Open Mic Night			STEAM Event	

introduction & visioning

Mon 15

focus

introduction
icebreakers
societal impact
visioning
responsible research and
innovation

speakers

Edward
Duca



Alex
Gerber



Amanda
Mathieson



Relevant modules

Introduction to science communication

Programme

On the first day, we'll kick off with some icebreakers in the morning so we can get to know each other. This will be followed by an introduction to what STEAM is all about, as well as some logistics you'll need to know for the rest of the programme. We'll also expand on the science communication scale by looking at impact and exploring as a group what our science communication goals are.

In the afternoon we'll be running a workshop exploring Responsible Research and Innovation (RRI). RRI is becoming an increasingly important concept for scientific institutions and is in line with the EU's strategy for growth. Through this workshop you will be discovering how science can be more collaborative and responsive to society's needs.



dialogue & audiences

Tue 16

focus

controversial issues
dialogue role-play
audience profiling
tailoring to your audience

speakers

Edward
Duca



Alex
Gerber



Amanda
Mathieson



Relevant modules

Dialogue
Audiences

Programme

Our second day will see us examine why issues might become controversial and identify what the public's needs are surrounding such topics. Then you will be given a scenario and in groups you will engage in a dialogue, develop your communication skills, as well as practise facilitation.

In the afternoon we will be looking at the needs and interests of different audiences and how this can be built into the design of your science communication activity. You will have the opportunity to design an activity and pitch it to us in teams. Finally, as a group we will start to think about the different audiences we can target for our STEAM event that you will design and deliver at the end of the programme.



create & act

Wed 17

focus

scientist/artist relationships
science and art events
science and art EU initiatives
science theatre

speakers

Meneloas
Sotiriou



Relevant modules

Science and art

Programme

On Wednesday you will become acquainted with the concept of learning science creatively through science theatre and other art activities. We will explore what science theatre involves and how it can help to deepen science knowledge through creative expression. Following this, you will be introduced to STEM and Arts initiatives within the EU to serve as inspiration for how STEAM can be done well.

There will be a warm-up activity to get you accommodated to using your body for communication and in groups you will develop and perform a short play. The play will be based on a topic chosen by you and should be able to describe fundamental concepts within your chosen topic. This activity will provide a background for the larger event which we will begin to develop content for in the afternoon.



STEAM Science Theatre performance, 2016

communications & branding

Thu 18

focus

tone of voice
visual identity
communications strategy
writing
videography

speakers

Alex
Gerber



Edward
Duca



Amanda
Mathieson



Relevant modules

Communications and branding
Online and social

Writing
Videography

Programme

Thursday will focus on the practical challenge of developing a brand for and promoting the STEAM event. In the morning we will explore branding ideas, creating a tone of voice and visual identity for the event. From there we will develop a communication strategy, identifying various ways we might reach our target audience and encourage their attendance. As a group you will decide who will take on what role to enact this strategy.

In the afternoon we will start putting this into practice, with a split workshop between written communications and video. The writing team will work on articles and press releases, while the video team learns some basic videography skills and plans their promotional film. These individual and group assignments will continue to the end of the day, as organised by you.



planning & evaluation

Fri 19

focus

project management
risk mitigation
evaluation strategy
front-end evaluation

speakers

Edward
Duca



Alex
Gerber



Amanda
Mathieson



Meneloas
Sotiriou



Relevant modules

Planning and evaluation

Programme

On the fifth day we will start to think about how you might manage a whole project rather than a single role within it. Our morning workshop will aim to develop our skills in project management, thinking about how to make the most out of your resources and protect against failure.

In the afternoon we will move onto the practical task of evaluating our STEAM event. We will consider the kinds of front-end, formative and summative evaluation we might do, listing our measures and indicators and selecting the appropriate methods. There will also be some time to perform some front-end evaluation, so this can be built into your end of programme event.



presentation skills

Sat 20

focus

presentation improv
individual presentations
freeze frame improv
individual assignments

speakers

Edward
Duca



Amanda
Mathieson



Relevant modules

Presentation skills

Programme

Our sixth day will focus on public speaking and will aim to increase your confidence by bringing you out of your comfort zone. Our activities will develop your on the spot creativity as we run through improvisation techniques used by actors. This might seem daunting at first but we will take it easy initially and gradually build towards more challenging scenarios!

In the morning, you will also give a short talk and receive feedback from the team to help you improve your technique. In the afternoon, you will develop a skit to perform at a local bar in the evening. Using the feedback gained and the creative ideas stimulated from the morning session, you will have the freedom to create a short scene, talk, song, poem, comedy routine, or any other form of open mic entertainment!



[Read more about our events on page 26.](#)

rehearsal & event

Sun 21 - Tue 23

focus

social excursion
rehearsals
promotion
event
wrap party

speakers

Edward
Duca



Amanda
Mathieson



Relevant modules

All

Programme

We will take a break on your seventh day and you will have the opportunity to go on a social excursion as a group. The trip will largely be chosen by you at the beginning of the programme. See our social events section on page 27 for more details.

Days eight and nine will be focused on preparing for and running the event. This will involve rehearsing your content in front of actors and other creative experts, tweaking content, promotions and of course, individual practice! Our event will run on the afternoon or evening of the ninth day and you will have most of that day in the theatre to really get to grips with your performances.

After the performance itself, we will hold a wrap party to celebrate our successes!



STEAM Science Theatre performance, 2017

reflection & ceremony

Wed 24

focus

summative evaluation
programme reflection
certificate ceremony
informal lunch

speakers

Edward
Duca



Amanda
Mathieson



Relevant modules

Planning and evaluation

Programme

On our final day we will have a chance to reflect on our STEAM event, as well as the programme as a whole. We will start by analyzing the evaluation data gathered at our event and suggest what might be changed for next time. We will then summarize the STEAM summer school programme through activities, allowing you to look back on what you have learnt. We will also explore the highlights and improvement areas of the school through a fish bowl discussion.

Finally, there will be a short ceremony where you will receive your certificates. We will finish midday on the final day but invite you all to an informal lunch for a well deserved group chat and refreshments by the sea!





public engagement events

During STEAM summer school you will take part in hosting two public engagement events, one where you will work individually and one where you will work as a group. The first will be a science open mic night where you will perform a short piece that could be anything from a talk, song, sketch or even comedy routine. This will be a relaxed, informal event in a pub environment and will be an opportunity for you to demonstrate your science communication skills and creativity. The second event will be our STEAM event, designed and delivered by you as group and prepared over the first eight or nine days. This event will allow you to put the majority of the learning from our online course into practice in front of a public audience!



Social Events

As well as the public engagement events you will organise, we will also host some social events over the ten days. These will be ad-hoc events that you are free to come and go from and will run on most evenings. As they are not part of the official programme, we will not provide a coach or arrange any other expenses but will be delighted to provide some logistics where necessary and show you a good time! Our schedule will look something like:

- ✿ **Monday** - an informal dinner at a local Maltese restaurant to get to know each other.
- ✿ **Tuesday** - a science cinema event, hosted outdoors and screening a movie chosen by you.
- ✿ **Wednesday** - a tour of Valletta delivered by Edward, with a trip into a gallery if there is time, followed by dinner and drinks.

- ✿ **Thursday** - an escape room, where teams are locked in a room and must solve puzzles to escape within the time limit.
- ✿ **Friday** - an evening in one of Malta's local bars, where there may be karaoke, comedy or another form of entertainment.
- ✿ **Sunday** - a full day excursion chosen by you. As a group, you can either decide to take a trip around Malta's old capital Mdina or go to the beautiful island of Comino for swimming.

At the start of the programme there will be the opportunity to sign up to any event you choose and we will run them based on the interests of the group.

the venue

Shopping & Activities

Gzira coast, which is the closest coast to the university, boasts numerous shops including ticket centres where you can book diving sessions, various tours and other experiences. Within walking distance is Manoel Island, home to Fort Manoel and built in the 18th century by the Order of Saint John.

Further up is the city of Sliema where you can find shops, bars, restaurants and Tigné Point – Malta's largest shopping mall. Sliema coast is a popular spot for sunbathing on the rocks and is one of the few areas you can BBQ without a permit. The sea just off the rocks is also great for snorkelling with calm waters and plenty of fish to be seen!

You can take the Sliema ferry to Malta's capital city of Valetta every half hour. Valetta is the capital of Malta and has numerous tourist spots, museums, galleries and quaint restaurants. It is also a central travel point and you can go anywhere else on the island from Valetta.

For those happy to travel, we recommend Mdina, the original capital of Malta. A fortified city with a population of less than 300, Mdina is home to St. Paul's Cathedral and nearby in Rabat you will find St. Paul's Catacombs. It's also where you will find the famous Crystal Palace – a café serving up the 'best pastizzi in Malta! ✨

Malta's coast has numerous diving sites and is great for snorkelling.



Culinary & Nightlife

As you can expect from its location, Malta's cuisine is an interesting mix of Italian and North African influences. You may be interested to try the rabbit stew, the aljotta (traditional fish soup) or the fried gbejna (crispy balls with molten sheep's cheese). For a quick lunch you'll find plenty of pizza and pasta places as well as the iconic pastizzi, a filo-like pastry stuffed with a cheese or pea filling. And at 30-40c each, they are a bargain!

When it comes to drink, Malta has its own unique soda known as Kinnie. With a faintly aniseed-like flavour, it can be drunk on its own as a soft drink or mixed with alcohol. It is made by Farsons, the same company that distributes Malta's national beer: Cisk. Cisk is a refreshing lager with a low carb version as well as those flavoured with berry, lemon and ginger lime.

With its Mediterranean climate, Malta is also a producer of delicious wine, steeped in tradition that dates back to the Phoenicians. There are many varieties produced in both Malta and Gozo but they are not widely distributed, so take the opportunity to try them while you're on the island!

And if you're looking for night-life you won't need to go very far as the coast is packed with bars, pubs and clubs that are great for casual socialising. We recommend



Aljotta (left) and pea pastizzi (right).



Live DJ at Funky Monkey, Gzira

checking Facebook for daily events such as live music, open-mic nights, stand-up comedy, karaoke and more. For the more intense clubbing experience you can try Paceville, Malta's nightlife hub and a destination for many tourists and party-goers.

The staff at UM love their food and drink, so if you want specific recommendations just let us know!

Important Spots

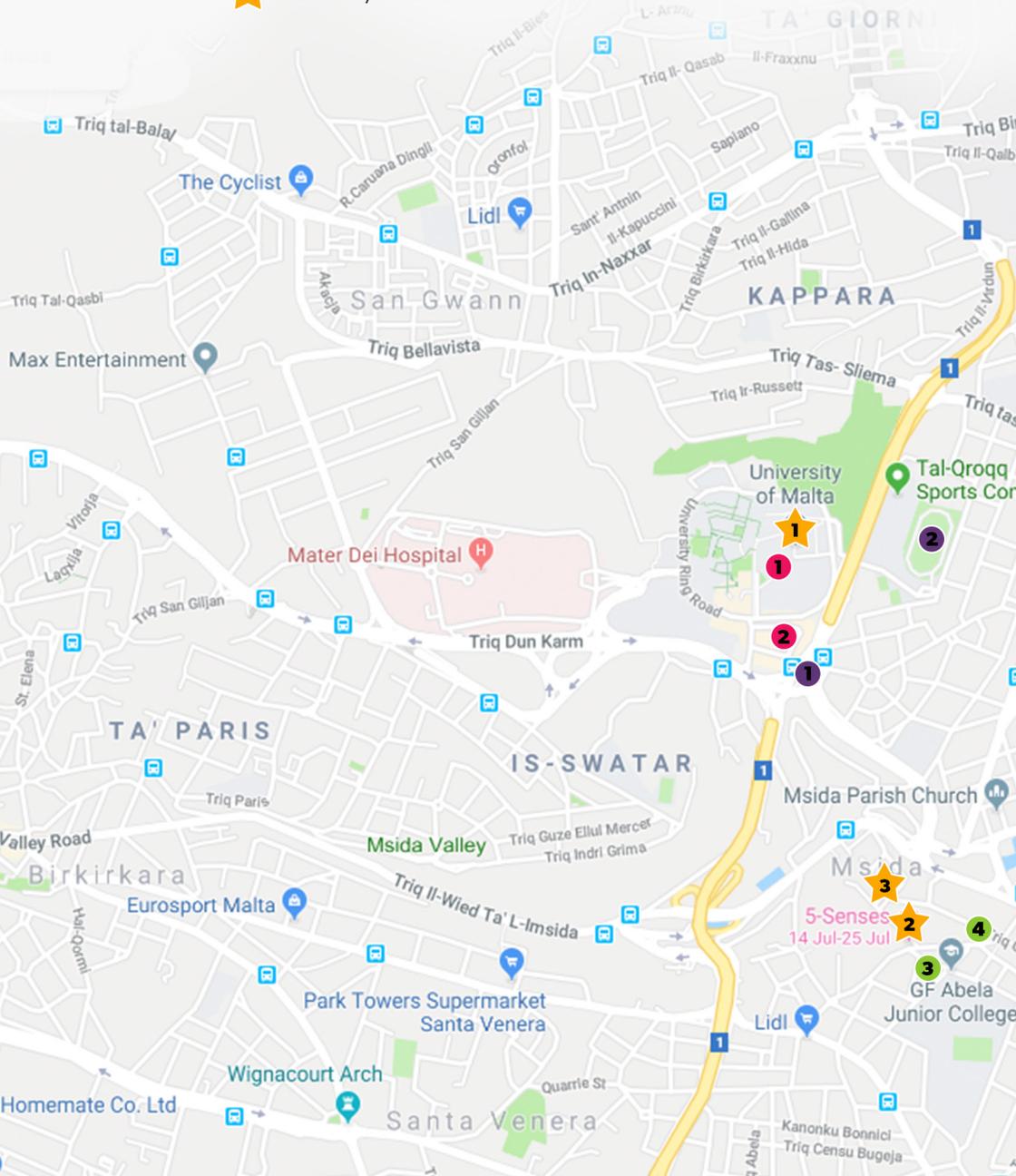
- 1** STEAM Summer School
- 2** 5-Senses, Msida
- 3** M Space Theatre
- 4** Valletta Entrance
- 5** Sliema Ferry to Valletta

Shopping

- 1** Gala Supermarket
- 2** Miracle Foods
- 3** Convenience Shop
- 4** Pharmacy
- 5** Tower Supermarket
- 6** Sliema High Street
- 7** Tigne Point Mall

Food

- 1** UM Canteen
- 2** New York Best / Hango
- 3** Mr Maxim Pastizzi
- 4** Ta'Kris (Traditional Maltese)
- 5** Yoshi Sushi / Eet Well
- 6** Hungarian Restaurant
- 7** Amigos Mexican



Points of Interest

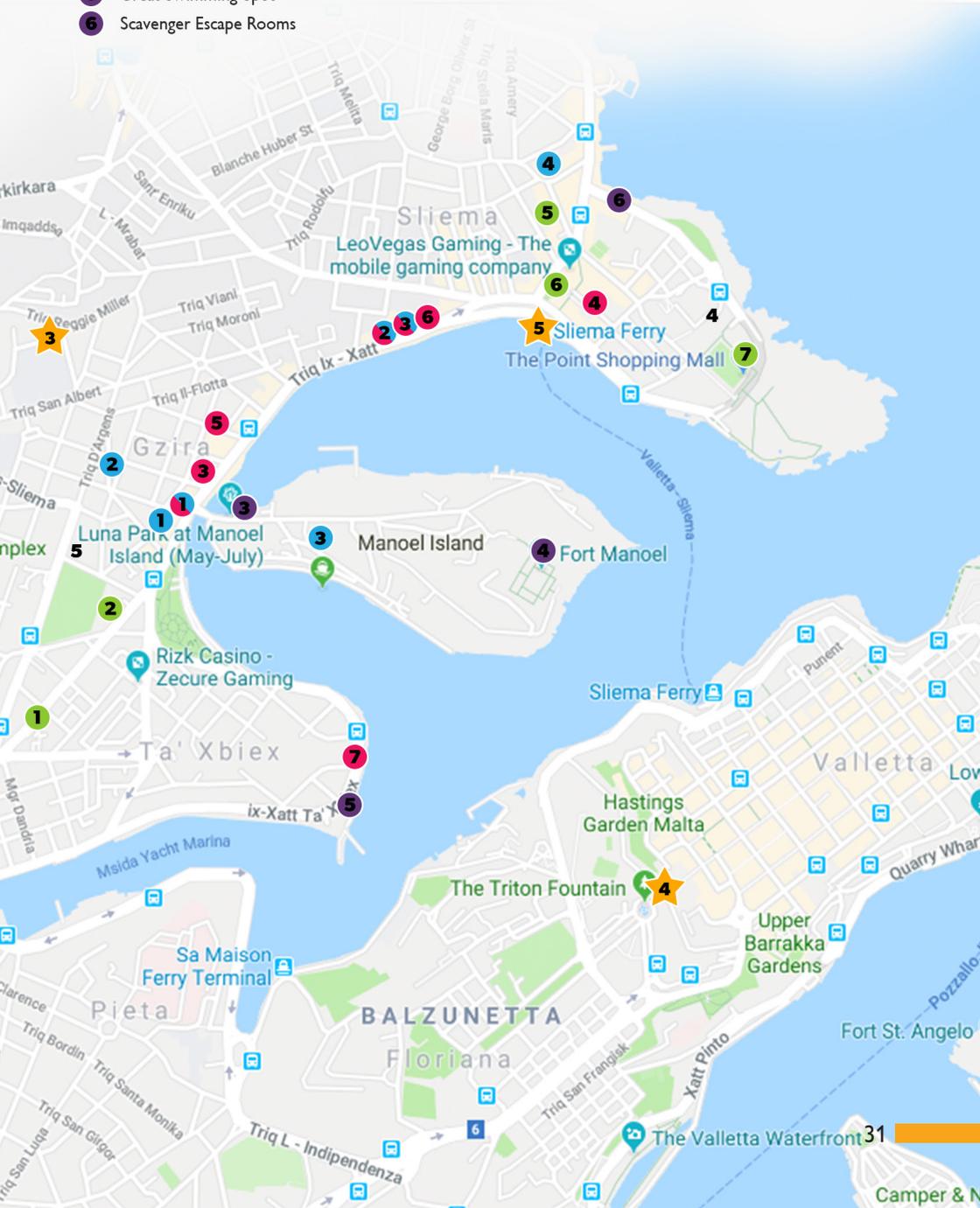
Bars / Pubs

Food and Drink

- 1 Skate Park
- 2 Sports Complex
- 3 Luna Park / Duck Village
- 4 Fort Manoel
- 5 Great Swimming Spot
- 6 Scavenger Escape Rooms

- 1 Good Thaimes
- 2 Casey's Bar
- 3 Funky Monkey
- 4 Hole in the Wall

- 1 Cafe Jubilee
- 2 Black Gold Saloon / Tex Mex
- 3 Black Sheep / The Brew





Notes

(This space is for you to include any notes while at the school.)

www.steamsummerschool.eu