# STEM 360-Logistics (Tentative)

Pre-College Summer Program  
School of Sciences and Mathematics  
July 18-22, 2022 (9am-4pm)

Student drop off and pick up each day: Cistern Yard (66 George Street)

## Day 1 (Monday, July 18)

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Topic</th>
<th>Time</th>
<th>Location</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>915-945am</td>
<td>SSMB 129</td>
<td>Opening Remarks by the Dean</td>
<td>945am-1145am</td>
<td>RITA 133&amp;380</td>
<td>Weather</td>
</tr>
<tr>
<td>945-1145am</td>
<td>SSMB 324</td>
<td>Chemistry Labs</td>
<td>1200-130pm</td>
<td>Liberty</td>
<td>Lunch/Ice Cream</td>
</tr>
<tr>
<td>1200-130pm</td>
<td>Liberty</td>
<td>Lunch/Ice Cream</td>
<td>145-345pm</td>
<td>RITA 133&amp;380</td>
<td>Weather</td>
</tr>
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<td>145-345pm</td>
<td>RITA 133&amp;380</td>
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<td>145-345pm</td>
<td>SSMB 324</td>
<td>Chemistry Labs</td>
</tr>
</tbody>
</table>

## Day 2 (Tuesday, July 19)

<table>
<thead>
<tr>
<th>Time</th>
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<th>Topic</th>
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<th>Location</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>930-1130am</td>
<td>Grice</td>
<td>Marine Biology</td>
<td>915-1015am</td>
<td>Museum</td>
<td>Natural History</td>
</tr>
<tr>
<td>1130am-115pm</td>
<td>Liberty</td>
<td>Lunch</td>
<td>1015-1145am</td>
<td>SSMB Atrium</td>
<td>Planetarium Demo</td>
</tr>
<tr>
<td>130-230pm</td>
<td>Museum</td>
<td>Natural History</td>
<td>1145am-1245pm</td>
<td>Liberty</td>
<td>Lunch</td>
</tr>
<tr>
<td>230-400pm</td>
<td>SSMB Atrium</td>
<td>Planetarium Demo</td>
<td>115-315pm</td>
<td>Grice</td>
<td>Marine Biology</td>
</tr>
</tbody>
</table>

## Day 3 (Wednesday, July 20)

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Topic</th>
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<th>Location</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>945am-1145pm</td>
<td>Stono</td>
<td>Human Diseases</td>
<td>945am-1145pm</td>
<td>Stono</td>
<td>Environment</td>
</tr>
<tr>
<td>1200-100pm</td>
<td>Stono</td>
<td>Lunch</td>
<td>1200-100pm</td>
<td>Stono</td>
<td>Lunch</td>
</tr>
<tr>
<td>115-315pm</td>
<td>Stono</td>
<td>Environment</td>
<td>115-315pm</td>
<td>Stono</td>
<td>Human Diseases</td>
</tr>
</tbody>
</table>

## Day 4 (Thursday, July 21)

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Topic</th>
<th>Time</th>
<th>Location</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>930-1130am</td>
<td>HWEA 301</td>
<td>Computer Savvy</td>
<td>930-1130am</td>
<td>HWEA 300</td>
<td>What is Math?</td>
</tr>
<tr>
<td>1145am-1245pm</td>
<td>HWEA COMPASS</td>
<td>Lunch</td>
<td>1145am-1245pm</td>
<td>HWEA COMPASS</td>
<td>Lunch</td>
</tr>
<tr>
<td>1245-130pm</td>
<td>HWEA COMPASS</td>
<td>Tour</td>
<td>12:45-1:30pm</td>
<td>HWEA COMPASS</td>
<td>Tour</td>
</tr>
<tr>
<td>130-330pm</td>
<td>HWEA 300</td>
<td>What is Math?</td>
<td>130-330pm</td>
<td>HWEA 301</td>
<td>Computer Savvy</td>
</tr>
</tbody>
</table>

## Day 5 (Friday, July 22)

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Topic</th>
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<th>Location</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>915-1015am</td>
<td>RITA</td>
<td>Physics Labs</td>
<td>915-1015am</td>
<td>RITA 375</td>
<td>Robotics</td>
</tr>
<tr>
<td>1030-1130am</td>
<td>RITA 375</td>
<td>Robotics</td>
<td>1030-1130am</td>
<td>RITA</td>
<td>Physics Labs</td>
</tr>
<tr>
<td>1145am-1245pm</td>
<td>Liberty</td>
<td>Lunch</td>
<td>1145am-1245pm</td>
<td>Liberty</td>
<td>Lunch</td>
</tr>
<tr>
<td>115-315pm</td>
<td>CTS</td>
<td>Field Trip</td>
<td>115pm-315pm</td>
<td>CTS</td>
<td>Field Trip</td>
</tr>
<tr>
<td>330-400pm</td>
<td>RITA 101</td>
<td>Closing Remarks by the Dean</td>
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</tbody>
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Day 1 (July 18) SSMB & RITA

Bond with Chemistry
Presented by: Dr. Amy Rogers, Dr. Rich Lavrich, Brison Shira, & Heidi Sabatini
Come and bond with Chemistry! We will be exploring polymers, chemistry of color, organic synthesis, and medicinal chemistry.
Ice Cream social at SSMB Backyard

Anatomy of Weather Forecasting
Presented by: Dr. Gabe Williams
You will be introduced to the “anatomy of weather forecasting”. You will learn how to use weather data and to learn how weather models work from our mesoscale meteorology lab. You will then make your forecast and craft your forecast for the public (using our broadcast studio).

Day 2 (July 19) Let’s Explore the Marine Life!
Grice Marine Lab (Your ride is provided by SSM)
Presented by: Dr. Heather Spalding, Ian Rolfe, & Ray Raddick
In this session, the students will be doing hands-on activities with algae pressing and plankton net towing. Dress appropriately for a marine outdoor session!
Planets and Constellations! Planetarium Demo
SSMB Atrium
Presented by Dr. Chris Fragile
Natural History Museum & Dinosaurs
Presented by Scott Persons & Sarah Michalies

Day 3 (July 20) Stono Preserve
Exploring your Environment
Presented by: Dr. Matt Rutter
A visit to Stono Preserve, a 1,000 acre property that is part of the College of Charleston and located 17 miles from the downtown campus. We will discuss research, education and conservation activities that take place at the Preserve, learn about the history of Stono Preserve, and tour the protected marsh, wetland and forest habitats that are a part of Lowcountry landscapes.

A wild ride into the world of human diseases and biotechnologies
Presented by: Dr. Renaud Geslain
Through relevant numbers, striking facts, and hands on laboratory activities, students from the Pre-College Program will learn and discuss about the prevention, detection, and treatment of some of the pathogenic diseases that currently disrupt our lives. Are you curious to learn how the COVID vaccines and tests work at the cellular and molecular levels? What really is inside the syringe that the nurse poked you with? Where your nasal swab goes once you leave the drive through? You knocked at the right door! Now, buckle up, this is going to be a wild ride into the world of human diseases and biotechnologies!

Day 4 (July 21) Harbor Walk
Be a Computer Savvy!
Presented by: Dr. Kebin Xu & Mason Vari
Internet of Things: Deploying the provided code on the Arduino devices and communicate with the sensors.
Game Programming: Creating simple games based on the ideas provided by students in groups of 2 using the online platforms

What is Mathematics, Really? (1:30pm-4pm)
Presented by: Dr. Alex Kasman & Naomi Woodsbury
• How I went from hating math class to being a professional mathematician.
• Video #1 (you choose)
• Applied Math: Things that only exist because someone did the math
• Video #2
• Hands-On Math Project #1: The mysterious properties of non-orientable surfaces
• Video #3
• Hands-On Math Project #2: The One-Cut Challenge

Day 5 (July 22) RITA
Exploring modern technology used by Physicists
Presented by: Sebastian Van Delden & Carter Blanton
Fieldtrip: CTC Visit
Closing Remarks by the Dean

STEM 360-Program in Detail
Please ask your child to have their cellphones with the internet access during the sessions. Here is the list of things that every participant needs to bring unless otherwise stated.

- Water bottle
- Sunscreen
- Binoculars (optional)
- Rainboots
- Mosquito repellant
- Sunglasses
- Cap/hat (for outdoor use)
- Long pants (for chemistry lab)
- Closed-toed shoes
- One extra pair of clothes
- Lab coats, Gloves & Goggles (to be provided)

** You are advised to bring a raincoat/umbrella in case of rain during your outdoor activities and transitioning.

*** Please download the following Apps for your activities at Stono Preserve on Environment.

The two apps (iNaturalist and Merlin) can be found on the Apple and Android app stores, or you can just link to the app stores from the project pages below!

App pages:

iNaturalist from https://www.inaturalist.org/ and Merlin from https://merlin.allaboutbirds.org/