**2019 STEM Leadership Program**

**NVU-J Upward Bound**

**T3 Alliance – Magic of STEM**

**Instructors:**  Ryan Bushey, Tony Blueter, and Erica Fuller

**Course website:** <https://t3alliance.org/>

**Program Description:** The T3 alliance summer program provides an introduction to basic computer programing and physical computing within the framework of a growth mindset.  Students will be introduced to a variety of programing concepts and given time to explore and develop skills on Raspberry Pi devices. Students will learn about the design thinking process and apply it to various tasks within their community.  There will be opportunities to develop communication, problem solving, and teamwork skills. The members of this program will become our STEM Community Leaders during the 2019 UB Summer Program.

**Program Objectives:**

1. Develop a growth mindset
2. Build a computer with a Raspberry Pi Device
3. Use visual and text based programing languages.
4. Understand electrical circuits and sensors with the Raspberry Pi Device
5. Communicate with sensors through a network
6. Use the design thinking process to address community related issues
7. Develop skills for communication and leadership and present to the UB Community at the May 11th Saturday College Meeting
8. Become a STEM Leader during the upcoming 2019 UB Summer Program.

**General Program Expectations:**

* 1. Be present for all scheduled meetings
* 2. Commit to the creation and maintain a UB Full Value Environment for Learning
* 3. You are accepting a leadership role in this program - Commit to the Role of

 being an Ambassador of our UB program both within and outside of our community.

* 4. Have fun, challenge yourself, and think outside of the box!



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| **Class Meetings Date** | **Location & Times** | **Class Materials & Assignments** |
| **Sunday, February 3****12:00 – 2:30 PM** | NVU-J Campus D 132 | **Meeting #1**Parent/Student Meeting – Group Pizza Lunch, Program Overview, Learning Objectives, & Expectations. Growth Mindset and Activity. Orlando Field Experience Paperwork, Q & A Session |
| **Sunday, February, 17****10:00 – 5:00 PM** | NVU-J CampusD 132 | **Meeting #2**Build Raspberry Pie Kits, Basic Coding, Community Projects, Project Teams, Roles and ResponsibilitiesDiscussion and Handout Rubric for STEM Presentation at May Saturday Meeting |
| **Sunday, March 17****10:00 – 5:00 PM** | NVU-J Campus D132 | **Meeting # 3**More Raspberry Pie Programming and Community ProjectsBuild Selfie Stations for May 11 Saturday College MeetingIdentify Sensors & Materials List for Summer Projects  |
| **Saturday, April 20****10:00 AM** | Burlington International Airport | **Meeting # 4**Review Goals for STEM Trip, Prepare for Flight, Final Bag Check & Lunch at AirportFight to Orlando and travel to hotel for evening |
| **April 21 – 24****STEM Trip**  | Orlando, FLKennedy Space CenterWalt Disney World Resort | (See Detailed Agenda) Handout |
| **Saturday, May 11****9:00 AM – 3:00 PM** | NVU-J Campus – Saturday College Meeting | Run Selfie Station Project STEM Leadership Orlando Fieldtrip Slideshow & Presentation Launch Summer 2019 STEM Projects |

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