

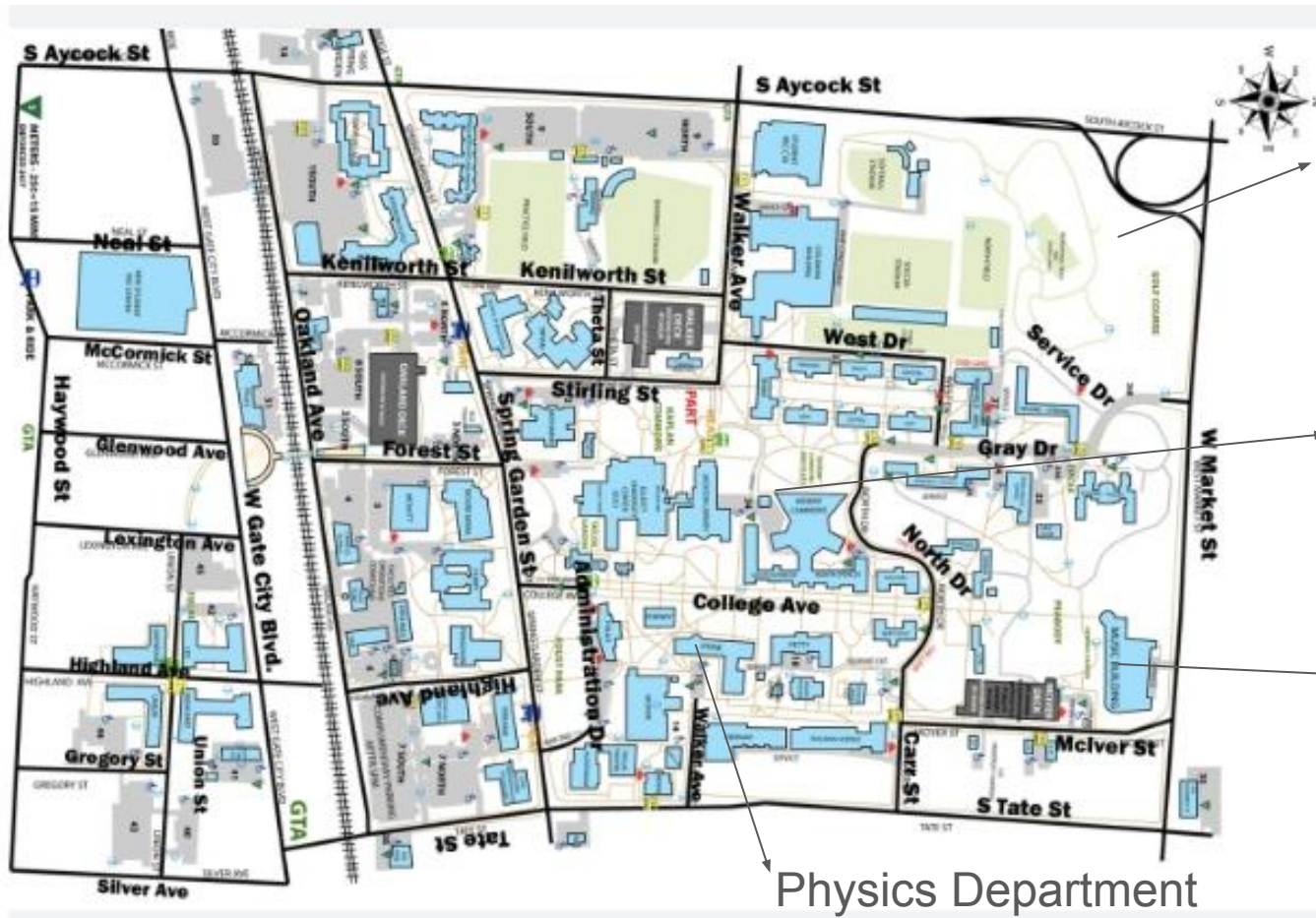
Intersection UNCG 2024

Student Manual

Technology and Innovation 5-day Camp
for 4th through 9th

College of Visual and Performing Arts (CVPA)
School of Music, 100 McIver Street

Physics Department, Petty Science, 317 College Avenue



Environmental Habitats

Fountainview Dining

School of Music

Physics Department

Learning and Experience Camp Schedule

Monday - Introduction to robots, internet of things, app design

Tuesday - Environmental habits and Aquatic macroinvertebrates

Wednesday - 7-9th campers science and engineering in the laboratory

- 4-6th campers social and environment issues topics

Thursday - artificial intelligence, team projects, STEAM curiosity and creativity

Friday - Dr. Nadir Play-based STEM, camp photo, showcase for parents/guests

4TH THROUGH 6TH GRADE PROJECTS

EACH GROUP WILL SELECT ONE TOPIC FROM FROM THE FOLLOWING:

WORLD HUNGER

HABITAT PROTECTION

STEM SOCIAL JUSTICE

GREEN ENERGY

BETTER HEALTH FOR WOMEN AND GIRLS

Project Topics Speed Dating

Name: _____

Directions: Go around the room and speed date all the topics. For each topic, there is a "profile" to look at. The profile will tell you basic things about the topic, but volunteers will give a quick blurb and can assist with any questions.

Topic Name	Your Thoughts	Your Ranking
World Hunger		/5
Habitat Protection		/5
STEM Social Justice		/5
Green Energy		/5
Female Health		/5

Final Ranking: 1. _____ 2. _____

3. _____ 4. _____ 5. _____

Brainstorm project ideas on the back.



HELLO, I AM WORLD HUNGER

Can you help me with this problem?

FOOD DESERTS

DISASTER RELIEF

WAR ZONES AND MIGRANT CAMPS

TRANSPORTATION, STORAGE, FOOD SAFETY

I AM HABITAT AND WILDLIFE PROTECTION



I TRY TO PROTECT FORESTS AND OCEANS

*Habitat loss is one of the leading
causes of species decline today.*

CAN YOU THINK OF HOW TECHNOLOGY CAN HELP?



Social Justice

Robotics and Internet of Things

Science, Technology, Engineering and Mathematics

BUT

STEM is not always Equal

Girls are sometimes not interested in science because there aren't many women scientist.

Sometimes people think girls are not good at math.

WHAT CAN WE DO TOGETHER SO THAT GIRLS BECOME SCIENTIST AND ENGINEERS?



GREEN ENERGY DOESN'T RELEASE HARMFUL GAS

GREEN ENERGY DOESN'T CAUSE CLIMATE CHANGE

GREEN ENERGY IS NOT MADE FROM OIL

GREEN ENERGY IS MADE FROM

THE SUN, THE WIND, AND THE WAVES.

CAN YOUR PROJECT MAKE MORE GREEN ENERGY?

BETTER HEALTH FOR WOMEN AND GIRLS

What if?

- All girls were safe and health
- All moms felt great every day
- No one had diabetes
- We exercised
- What else?
- Can technology help?



WHICH PROJECT DID YOUR TEAM SELECT

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PROJECT CHECKLIST



DIRECTIONS: THIS IS A CHECKLIST FOR YOUR PROJECT. THIS DOES NOT HAVE TO BE COMPLETED IN ANY ORDER, IT'S FOR YOUR GROUP TO BE ORGANIZED. PLEASE HAVE THE TEST TRIAL DONE BY THURSDAY AFTERNOON. THE "CREATORS" BOX IS FOR THE ROLES EACH MEMBER HAS

TOPIC

GOAL

TECHNOLOGY

CREATORS

TEST TRIAL

PRESENTATION

GROUP:

Resources, materials, and tools used during camp

Code.org https://studio.code.org/users/sign_up - each student is asked to have signed up for code.org with an individual gmail account. For those students who may not have an personal gmail, they will be able to participate using the class account.

Edison Robotics “programmable robots designed to be a complete STEM teaching resource for coding and robotics education for students from 4 to 16 years of age”

<https://www.youtube.com/watch?v=.x3teUWXB34w>

Sphero littleBits “makes hands-on learning fun and memorable”

<https://www.therobotreport.com/sphero-buys-littlebits-leading-steam-robotics-education/>

Science Education for Public Understanding (SEPUP)

<https://sepup.lawrencehallofscience.org/>

AAUW STEM Education Teen Near Peer Mentors

Diya Parikh - Class of 2024 Grimsley High School - Lead Counselor

Anika Dupreez - Class of 2024 Page High School

Cayden Neal - Class of 2024 The Kearns Academy

Kavya Donepudi - Class of 2025 Northwest High School

Dik Keer - Class of 2025 Middle College at Greensboro College

Kushala Kota - Class of 2025 North Carolina School of Science and Mathematics

Smriti Verma - Class of 2025 The Early College at Guilford

Jasmeh Gill - Class of 2026 Grimsley High School

Suchitra Kannan - Class of 2026 A&T STEM Early College

Suhitha Kannan - Class of 2026 Middle College at GTCC Jamestown

Janiya Shah - Class of 2028 Southwest Guilford High School

UNCG Faculty

Dr. Hamid Nadir is an Assistant Professor in the Information, Library, and Research Sciences at the University of North Carolina Greensboro. He earned a Ph. D. in Instructional Systems Technology (minor in Human-Computer Interaction) from Indiana University- Bloomington. His research focuses on how (1) STEM education can improve classroom instruction, (2) student-centered learning can be beneficial, and (3) technology integration can impact learning and instruction. He started his teaching career as a middle school teacher. hmnadir@uncg.edu

Dr. Sarah Praskievicz is an Associate Professor in the Department of Geography, Environment, and Sustainability at UNCG. She is a river scientist whose research focuses on interactions between physical and biological components of river systems. SJPRASKI@uncg.edu

Dr. Nadir, Dr. Praskievicz, and a team of other UNCG faculty are working on a grant proposal to submit to the National Science Foundation, focused on expanding and comprehensively evaluating a STEM camp program for middle-school girls.

AAUW Greensboro Branch <https://greensboro-nc.aauw.net/>

The Greensboro Branch of the American Association of University Women is one of fourteen AAUW branches in North Carolina. Funding for the Greensboro STEM programs are made possible by grants from the Community Foundation of Greater Greensboro, Eco-Labs Foundation, and generous individual donors. The University of North Carolina Greensboro Youth Programs and the College of Visual and Performing Arts, Dean Bruce McClung, provide essential in-kind support of facilities, laboratories, and executive guidance to make Intersection UNCG a one-of-a-kind program for Girls in STEM. <https://www.aauwnc.org/programs/stem/>

AAUW is the leading membership nonprofit organization organized and dedicated to “advance gender equity for women and girls through research, education, and advocacy”. Adult and youth volunteers contribute greatly to the success of AAUW STEM programs.

For more information about AAUW STEM Education programs, contact Laura Tew
STEM@aauwnc.org