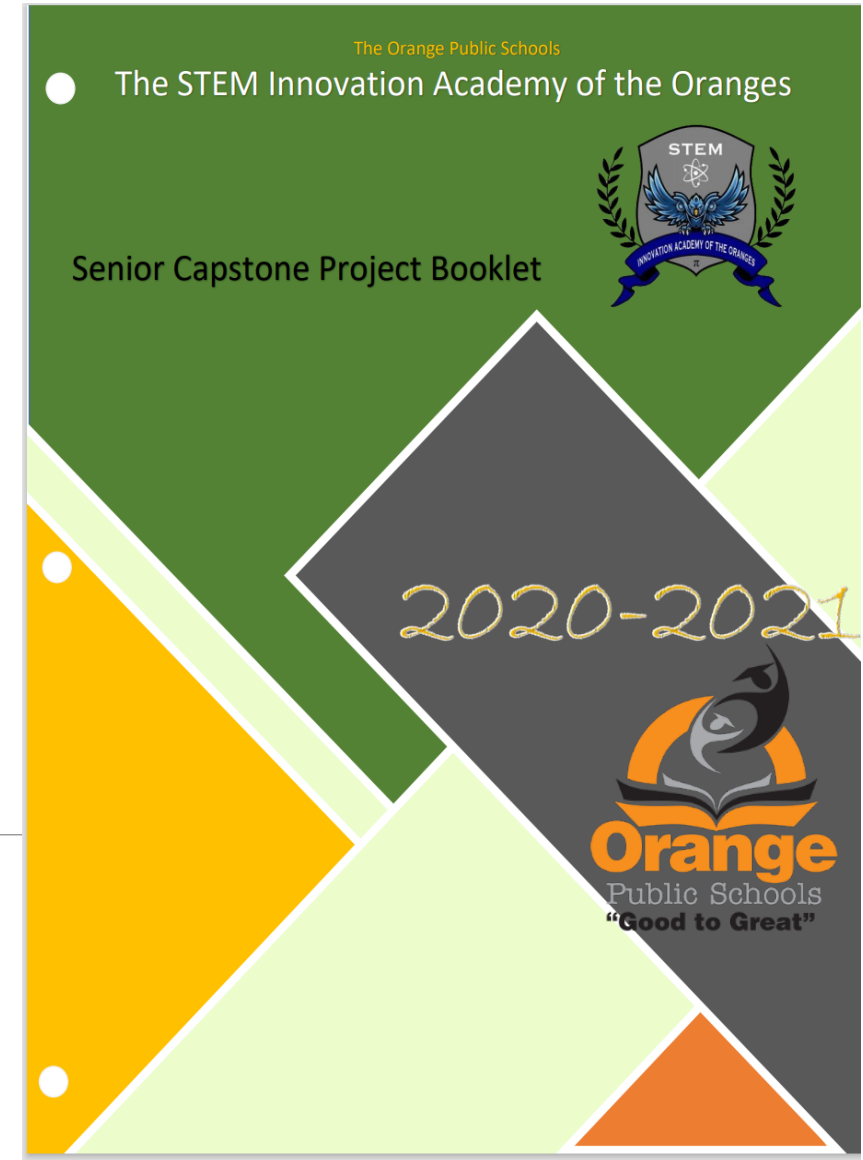
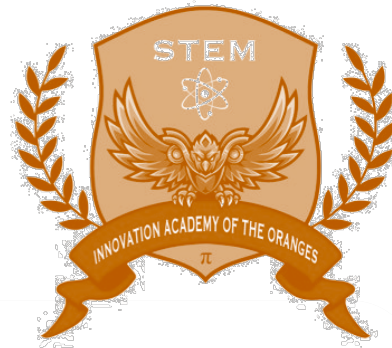


STEM INNOVATION ACADEMY of the ORANGES

2020-2021

MIDYEAR PANEL PRESENTATIONS



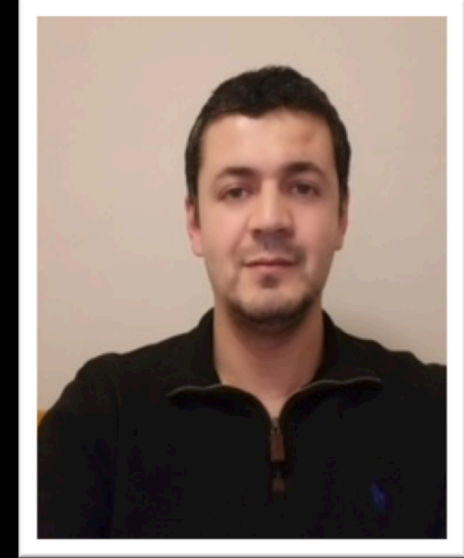
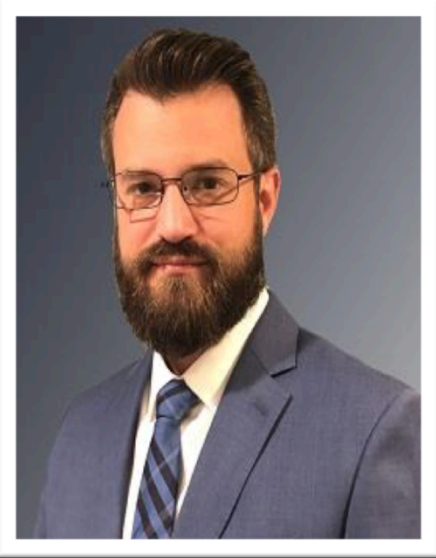


Meet the Administrators



Dr. Gerald Fitzhugh, II
Superintendent of Schools

Dr. Tina Powell
Director of Mathematics, Science, & STEM







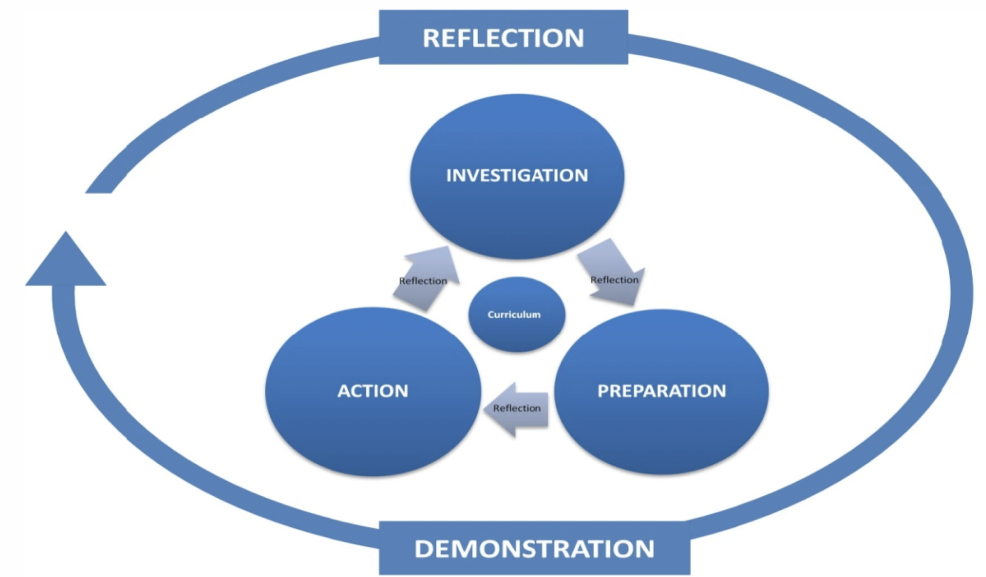
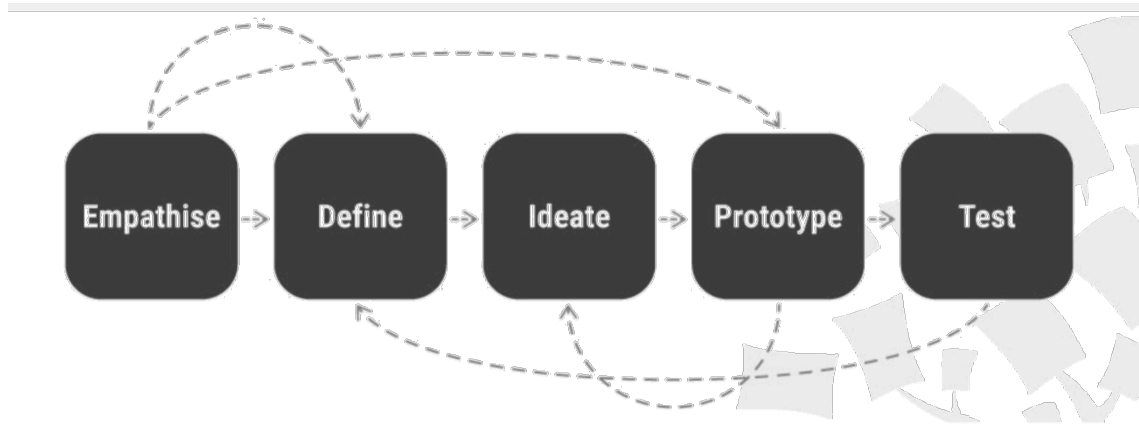
Mr. Salvatore Lima
Principal

Dr. Devonii Reid
Assistant Principal

Mr. David Aytas
Supervisor of STEM-focused Learning

Grade 12: Senior Capstone Projects

Community Service		Research Report		Demonstrable Solution w/ Engineering Notebook/ journal		Presentation Board	
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For the Grade 12 Defense Proposal, students on the *Biomedical, Computer Science, and Mechanical Engineering* tracks presented

1.1.1-1.1.5 of their Senior Capstone as follows:

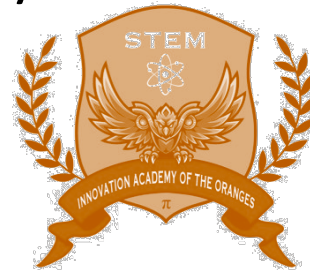
1.1.1: Select your Partners

1.1.2: Select your Project Topic

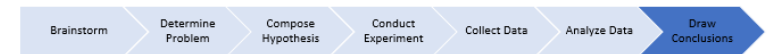
1.1.3: Develop your Research Question

1.1.4: Identify your Mentor

1.1.5: Develop your Literature Review & your idea for a Demonstrable Solution



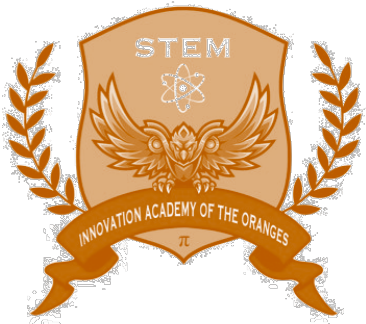
Components of the Senior Capstone Project



Complete by June 7, 2021		<i>Bolded headers reflect Pages in</i>
<input type="checkbox"/>	1.1.1 10 points	Select A Partner When selecting your partner please keep in mind that you will work with this person for the entire length of the school year. You may not have more than 3 people in your group. You and your partner will use the Experimental Design Process (Appendix B) as you complete each step of your project.
<input type="checkbox"/>	1.1.2 10 points	Identifying a Project Topic When selecting your topic try to explore something that you are passionate about, or maybe know little about. Start by going out into your community and asking questions. Take a walk around your school or through your town and ASK questions. Make a list of three topics that peak you and your partner's interest.
<input type="checkbox"/>	1.1.3 10 points	Research Question Clearly state your research question or problem. Your solution will be demonstrable; applying what you've learned in your track classes to create a final project that helps answer your research question.
<input type="checkbox"/>	1.1.4 15 points	Securing your Qualified Mentor in your Field of Study Whether you are completing a research project, you must secure a mentor.
<input type="checkbox"/>	1.1.5 30 points	Literature Review/Rationale Properly document all sources using APA format. Your Literature Review should answer the following questions: • What is the purpose of the project? • What is the conceptual framework informing your questions? • What theoretical perspectives or assumptions do you draw from? • What is the relevant existing work in the field, and how is your proposed project situated in relation to it? • How is this a genuine need? What are the assets from your community/expert that have informed your rationale? What contribution might your project make to the field? • What can we learn from your work? • How might surveys be utilized to support your research question? If you reached out to local community members, then please include the mode of communication and professional correspondence. *If your project requires specific supplies to be order you must notify your track instructor three weeks before the supplies are needed. When planning your methods keep the following in mind: • Try not to

Overall Content [45 points]

RUBRIC



Capstone Requirements 1.1.1-1.1.5	STRONG 13-15 points	ACCEPTABLE 11-12 points	DEVELOPING 9-10 points	UNACCETABLE 1-8 point
Introduction 1.1.1 Selecting a Partner 1.1.2 Identifying a Project Topic 1.1.3 Research Question	Students introduced themselves and their topic clearly. They have a clearly defined research question and they can explain how the chosen question will allow them to apply their knowledge from prior track classes	Students introduced themselves and their topic. Students have a clearly defined research question	Students' topic and/or research question are unclear or lacks focus	Students have not identified a research question
1.1.4 Securing a Mentor	Students have identified and secured a qualified mentor, and are able to speak to meetings/ experiences they have had with their group mentor	Students have identified and secured a qualified mentor, but have not yet held meetings with their mentor	Students have secured a mentor, but the mentor's experience/ job description does not align with the student's capstone topic	Students have not secured a mentor
1.1.5 Literature Review and rationale.	<p>Students highlighted a minimum of three sources that support their work and made connections among these sources and their work overt for their audience.</p> <p>Students made a strong case for their work based on observations, survey, interview, and experience.</p>	<p>Students highlighted a minimum of three sources that support their work and made some connections among these sources and their work.</p> <p>Students made a general case for their work based on observations, survey, interview, and experience.</p>	<p>Students highlighted a minimum of two sources that support their work and made unclear connections among these sources and their work.</p> <p>Students connected some observations, survey, interview, and experience to their work.</p>	<p>Students were not able to support their work with quality sources.</p> <p>Students were not able to support their work with quality information from , survey, interview, and experience.</p>

Research Question for Group 1

How can biomedical innovations be used to support new patients, particularly young children, in the process of acclimating to a new cochlear implant device?



Our Mentor

- Mrs. Maureen Henry, former Program Supervisor for a Deaf and Hard of Hearing Program in Burlington, Illinois
- Has worked as a teacher for the deaf and early interventionist for 8 years
- Typical responsibilities of her job include improve instruction and supervise teachers and staff in the deaf and hard of hearing program
- Meetings to Date:
 - 11/25/20: First initial meeting with mentor, got to know about each other and her job, learned about Ling 6 sounds & cochlear implants, and learned how to refine & further develop our topic.
 - 12/03/20: Discussed our final idea, discussed further development for our toy, and asked questions for clarification on our topic.
 - 1/18/21: Reviewed our final literature review, presented our slides, asked and received questions and comments before we present.
 - 1/19/21: Met with a deaf and hard of hearing family who utilize various hearing technology like hearing aids and cochlear implants.



THANK YOU!!!

Please stayed tuned for our end of year
Senior Capstone Presentations!

We welcome those who would
like to serve on our Judges' Panels
in June 2021.

If interested:

Contact ~ Dr. Tina Powell

powellti@orange.k12.nj.us

