

2021-2022 Academic Research Options

Freshman Project:

Science / Engineering Project – Students should arrive on the first day of school with ideas for their project. Freshmen will be given some class time to work on their projects and have guidance from their Research Methods teacher. All projects must be completed as individuals; groups projects are not allowed. Attendance at the SEA Research Symposium on Dec. 4th is mandatory.

Sophomore Options:

Science / Engineering Project – Students should arrive on the first day of school with ideas for their project. Upperclassmen will complete projects on their own time. All projects must be completed as individuals; groups projects are not allowed. Attendance at the SEA Research Symposium on Dec. 4th is mandatory.

Art in STEM – This year's theme is Steampunk. Students may work individually or in teams of two. Students will research the history, culture, and creations of the Steampunk movement, and apply this research to an original piece of art. Students will design and create a *free-standing* sculpture with moving parts. Access to electricity will not be supplied. Students will showcase their sculpture and display board at the SEA Research Symposium on Dec. 4th.
The number of projects will be capped at 30. [Application required.](#)

NASA VOLARE Program – Students will work in groups to design and create solutions for problems relating to acoustic damping, hydrology, power management and distribution, remote sensing, and/or simulated lunar operations. Students will be involved in all aspects of the design process, from initial designs to testing of products and presenting the team's solutions. This option will be capped at 25-30 students. [Application required.](#)

Destination Imagination – Teams of 5-7 will solve one of five challenges (Fine Arts, Scientific, Engineering, Technical, or Project Outreach). In addition to solving the challenge specifications, students are required to write a script, build a set, make costumes, and design every element of the solution without any outside help, while staying on budget. Attendance at the Regional Tournament (early March) is mandatory. [Application required.](#)

Robotics Research Team – Students will work together to design and build robots to be showcased at competitions. Students are assigned a role by team captains & teams are assigned by the Robotics sponsor. This option is open to Seniors who were on the team during their junior year, as well as current Sophomores and Juniors. This option will be capped at ~ 30 students.
[Application required.](#)

Junior & Senior Options:
(All Freshman & Sophomore options, **PLUS** the following)

ACE Mentorship – Teams of ACE (architecture, construction & engineering) students will work with mentors to design a solution to a community project. Students will present to a panel of architects and engineers in May. [Application required](#). ~30 students will be accepted.

Independent Study Mentorship (ISM) – Students work with a mentor to complete in-depth research on a topic of their choosing. They will present their research and resulting product in April/May. Students must be a Pre-AP or AP student enrolled in the ISM class. [Application required](#).

***** Students must declare which research option they will be participating in by September 17th *****

**APPLICATIONS ARE DUE by
Friday, September 24th at 4:45pm.**

Application forms will be posted in Schoology. Filled applications can be dropped off in Room A220 or emailed to penney.maretzki@nisd.net

Late applications will not be accepted.

SPONSORS:

Science & Engineering Projects – Penney Maretzki (A220)

Art in STEM – Karina Garcia (L118), Valerie Saenz (A205)

NASA VOLARE – Tracy Jordan (A218)

Destination Imagination – Penney Maretzki (A220), Shawn Lopez (A207), Adriane Caga (B134)

Robotics Team – Frank Szarka (E112/F118), Megan Stewart (A233)

ACE Mentorship – Luis Rivera (A212), Tracy Jordan (A218)

Independent Study Mentorship – Elaine Asbell (B102)

