

# **The Governor's School for Science and Technology New Horizons Regional Education Center**

## **Governor's School Course Information: Honors Research & Mentorship**

*Research Applications / Mentorship (4271 / 4612): (2 weighted high school science credits)*

**Instructors:** Laura Vobrak, EdS, Nina Semenova, PhD, Phone: 766-1100 x3308

Classroom & Office: C-2 email: [laura.vobrak@nhrec.org](mailto:laura.vobrak@nhrec.org), [nina.semenova@nhrec.org](mailto:nina.semenova@nhrec.org)

**Communication with Instructor:** In addition to time in-class and the above contact information, the instructor can be reached via CANVAS [www.newhorizons.instructure.com](http://www.newhorizons.instructure.com), in which students are already enrolled. Use the **InBox** feature in Canvas.

**Research Applications / Mentorship (4271 / 4612): (2 weighted high school science credits)** (3 credits) Prerequisite(s): Successful completion (C or better) of one two semester science lab course sequence. Corequisite(s): MTH 245 and enrollment in second two-semester lab science sequence. Explores advanced topics in scientific research. Exposes students to a variety of research approaches and scientific disciplines. Introduces research design, data collection and analysis of data. Provides students an opportunity to design their own experiments, including collecting and analyzing data as appropriate, drawing conclusions and determining the statistical reliability of those conclusions.

### **Student Learning Outcomes**

- Understand the concept of academic research and its major principles.
- Explain and use scientific method and develop scientific reasoning skills.
- Identify research problems, develop and justify research questions and hypotheses.
- Acquire, critically analyze and integrate scientific research literature.
- Design experiments for the purpose of testing research hypotheses.
- Analyze quantitative results using appropriate statistical techniques.
- Conduct graphical representations of scientific data.
- Construct the components of a research proposal and complete a research project.
- Conduct scientific peer review.
- Communicate research results in written and oral formats.
- Understand ethical aspects of research and discuss them within different research approaches and contexts.
- Describe the different aspects of scientific research impact on culture and society.

Students must keep in mind that enrollment in a college class, including dual-enrollment while in high school, entails consequences that can be significant and permanent including, but not limited to, the following:

- Final course grades on college transcripts become a permanent part of a student's college record.
- Graduate-level education programs may consider DE grades equally with traditional college courses in calculating GPA for admission (E.g. graduate, medical, veterinary schools).
- Grades of D and F and course withdrawals can negatively affect scholarship and financial aid requests.

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- Once the withdrawal date has passed, students cannot withdraw from a class, except in extraordinary circumstances such as a medical emergency.

**Textbook:** The Scientist's Guide to Writing, 2<sup>nd</sup> Edition, Stephen B. Heard, 2022 (Provided for student use)

Research Methodology, 2<sup>nd</sup> Edition, Ranjit Kamar, 2005 (Provided for student use) In addition, Information and resources will be posted on Canvas.

**Grading Scale:** A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = less than 60%

### Quarterly Grades:

- Assignments-20%  
Includes Discussion board posts, Data science work
- Research Projects-40%  
Includes Notebook checks, Topic Document, Literature Review, Research Proposal, Final Research Paper, Oral Presentations
- Class Participation-30%  
Includes In-class assignments, Mentor Evaluations/Timecards
- Test Grades -10%

**Semester Grade Determination:** S1 Grade = 50% Q1 + 50% Q2

S2 Grade = 50% Q3 + 50% Q4

Yearlong Grade = 50% S1 + 50% S2

**Homework & Assignments:** In preparation for class lectures and assignments, students may be assigned readings/videos on CANVAS and required to participate in discussions or quizzes posted on CANVAS. Often, much of the work will be completed in class where the student can get assistance from the instructor as well as peers.

**Late Assignments:** Assignments will be submitted via Canvas LMS. *Late assignments without an excused absence will receive a deduction of 10% each day.*

If an absence is unexpected (i.e., due to illness, family emergency, etc.) **parent/guardian communication is expected within a day of the absence to explain the absence.** Subsequent communication between the instructor and student will allow for mutual agreement for the terms of make-up work.

- In the event of a long-term absence, alternate assignments will be made to accommodate student needs. In support of optimal learning potential, the instructor will determine a reasonable timeframe for make-up work to be submitted in order to gain credit for the submissions.

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**Academic Integrity Guidelines:** All students are required to take responsibility for upholding everyone's honesty in the classroom. All students will sign a copy of the GSST Honor Pledge during the first week of school.

*The Pledge: "I pledge to support the Governor's School for Science and Technology (GSST) Code for Academic Work. I will refrain from any dishonesty or deception, such as cheating or plagiarizing, which are honor code violations, on any and all academic work. I am further aware that as a member of the academic community, I should report any suspected violations to an instructor."*

**No form of cheating, copying, or plagiarizing will be tolerated.** Homework and class assignments are independent work and should not be copied. Students may share lab data collected by members of their group, however lab reports and all other written assignments are to be done independently unless the assignment clearly states that it is group work. The level of collaboration allowed between students will be indicated on each assignment. In addition, students will read and sign the *Appropriate Collaboration* form to clarify types of assistance that are encouraged vs. not tolerated in this course.

In the case of copying, there will be **no determination of who copied from whom; all students involved will receive no credit for the assignment and the students involved may be referred to the GSST administration for disciplinary action.** Regarding tests and quizzes, if students share information during an assessment or look at notes or other written materials during the assessment, all students involved will receive no credit for the assessment and the students will be referred to the school's administration for disciplinary action.

To avoid plagiarism, all sources of literature and website research must be cited properly to give the author(s) credit. In addition, **such information will be summarized or paraphrased, never just copied from its source.**

The goal of the Governor's School is not only to help students to gain entry into top colleges and access learning and career opportunities, but to thrive and excel once they have gained that entry. To this end, we take the academic integrity of each of our students very seriously.

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**New Horizons Regional Education Center**

**Please return only this page to your teacher after you and a parent/guardian have read the syllabus and the GSST Honor Pledge no later than Friday, September 5<sup>th</sup>, 2025.**

I have read the syllabus for Honors Research & Mentorship at GSST. I will contact Ms. Vobrak, by phone at 766-1100, x3308, via CANVAS, or by email [laura.vobrak@nhrec.org](mailto:laura.vobrak@nhrec.org) if I have any questions.

Student's Printed Name: \_\_\_\_\_

Student's Signature: \_\_\_\_\_

Parent/Guardian's Signature: \_\_\_\_\_