Statistics Honors
Course Compendium

UNITS OF STUDY*

Unit I- Experimental Design
Unit 2- Descriptive Statistics
Unit 3- Probability
Unit 4- Inference

STATISTICS HONORS Credits: 5
Prerequisites: Geometry Honors, Algebra 2 Honors, Pre-calculus Honors OR Algebra 2 CP or PreCalculus CP with teacher recommendation Grades: 10, 11, 12
This course provides an excellent preparation for students who are contemplating careers in sports, health, computer science, environmental science, business, finance, politics, engineering, or government. The topics in this course include the basics of descriptive and inferential statistics: creating appropriate data displays and using them to learn about the data, designing surveys and experiments to ensure validity of results, using probability to make predictions, using simulations to learn when to question results, creating confidence intervals to estimate population parameters, and using inference tests to question claims about a population. Technology will be used not only to simplify calculation and display charts and graphs, but also to generate and access appropriate data for activities and projects. Graphing calculators are used extensively in this course.

**See individual units for Pacing Guide, NJSLS Standards, Transfer Skills, Enduring Understandings, Essential Questions, Learning Objectives, Key Vocabulary, Skills, Resources, & Assessments*

INTERDISCIPLINARY CONNECTIONS

NJSLS Companion Standards Grades 9-12 (Reading & Writing in Science & Technical Subjects)

RST.9-10.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
RST.9-10.8. Determine if the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
RST.11-12.1. Accurately cite strong and thorough evidence from the text to support analysis of science and technical texts, attending to precise details for explanations or descriptions.
RST.11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
RST.11-12.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.
RST.11-12.8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

21st Century Life and Careers

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.
9.3.ST.2 Use technology to acquire, manipulate, analyze and report data.
9.3.ST-SM.4 Apply critical thinking skills to review information, explain statistical analysis, and to translate, interpret and summarize research and statistical data.

Technology

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
8.1.12.A.CS2 Select and use applications effectively and productively.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment

E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.
8.2.12.E.1 Demonstrate an understanding of the problem-solving capacity of computers in our world.

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MODIFICATIONS / ACCOMMODATIONS

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
- Personal glossary - Text-to-speech - Extended time - Simplified / verbal instructions - Frequent breaks WIDA Can Do Descriptors for Grade 9-12 WIDA Essential Actions Handbook FABRIC Paradigm Wall Township ESL Grading Protocol Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	- Small group/One to one - Additional time - Review of directions - Student restates information - Space for movement or breaks - Extra visual and verbal cues and prompts - Preferential seating - Follow a routine/schedule - Rest breaks - Verbal and visual cues regarding directions and staying on task - Checklists - Immediate feedback Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner. Considerations for Special Education Students 6-12 National Center on Universal Design for Learning - About UDL UDL Checklist UDL Key Terms	- Use of high level academic vocabulary/texts - Problem-based learning - Pre-assess to condense curriculum - Interest-based research - Authentic problem-solving - Homogeneous grouping opportunities Knowledge and Skill Standards in Gifted Education for All Teachers Pre-K-Grade 12 Gifted Programming Standards Gifted Programming Glossary of Terms **Students with 504 Plan** Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.

At Risk Learners / Differentiation Strategies		
Alternative Assessments Choice Boards Games and Tournaments Group Investigations Homogeneous Grouping Online Math Practice	Independent Research & Projects Multiple Intelligence Options Project-Based Learning Varied Supplemental Activities Graphic Organizers Choice of Activities Mini-Workshops to Reteach or Extend Use of Collaboration of Various Activities	Exploration by Interest Flexible Grouping Homework Options Open-Ended Activities Varied Product Choices Stations/Centers Work Alone/Together

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