



## LISLE SENIOR HIGH SCHOOL

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### Pre-Calculus

#### Department Contact Information

Teacher	Email	Phone Number
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#### DEPARTMENT MISSION

The mission of the Lisle mathematics department is to provide students with the mathematical concepts and skills necessary for success in college and the workplace. The instruction, tasks, and assessments are aligned with the Common Core State Standards and mathematical practices. Students will be encouraged to think and to make conjectures while persevering through challenging problems. They will be educated to be critical thinkers and collaborative problem solvers.

#### COURSE DESCRIPTION

Pre-Calculus is an advanced form of algebra. The class will include the further study of functions, trigonometry, conic sections, exponential and logarithmic functions, and sequences and series.

#### COURSE LEARNING STANDARDS

Students will:

Analyze graphs of functions and relations; discuss continuity, end behavior, limits, extrema, and average rates of change; graph and describe functions from a parent function; determine inverse functions/relations and their graphs; perform functions operations including composition of functions; analyze and graph power and radical functions; use remainder and factor theorems and discuss their results; solve polynomial, radical, and rational equations; graph and solve exponential and logarithmic functions and equations; discuss properties of logarithms and use them to solve equations; use data to model situations and use the models to make predictions; graph and solve trigonometric functions and equations; use inverses to solve trigonometric equations; use data to write trigonometric functions; discuss Law of Sines and Law of Cosines and find areas of triangles using different parts of non-right triangles; discuss known trigonometric identities and use them to verify larger identities and solve equations; discuss multiple methods to solve multivariable linear systems, use matrix operations and determinants to solve matrix equations and decompose fractions; discuss and graph conic sections and their properties; use conic sections to model real-life situations; use parametric equations to model real-world situations and solve problems; discuss polar coordinates and their uses in the real world; graph polar functions and discuss their properties; perform operations using complex numbers including DeMoivre's Theorem; discuss arithmetic and geometric sequences and series; find the sum of finite and infinite sequences (series); discuss Pascal's Triangle and its relationship with Binomial Theorem.





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### **COURSE GRADING POLICY**

#### Course Grade

90% - Summative Assessment

10% - Formative Assessment

#### Final Semester Grade

80% - Course Grade

20% - Semester Exam

#### Grading Scale

100-90 A

89-80 B

79-70 C

69-60 D

59-50 F

### **LATE WORK POLICY**

Late work is accepted up until the unit assessment. The student shall receive no more than 50% credit for submitting late work.

### **COMMUNICATION WITH COURSE TEACHER(S)**

Communication is vitally important. Teachers make every effort to respond to emails within 48 hours during the work week. If you have not received a response within 48 hours please resend your email and/or call their voicemail.

### **OTHER SUPPORT**

Students should come in before or after school to get help from their teacher. The Learning Lions Center in the library is available before or after school or during their study hall period. This service is available Monday, Tuesday, and Thursday. Parents should actively monitor your student's grade on PowerSchool. Please talk to your child about their school work. Check with your individual teacher to learn more about classroom procedures and schedules.

