CASE

APB Common Core State Standards for High School Mathematics Alignment

		Unit 1 – Introduction to Biotechnology	Unit 2 – DNA Technologies	Unit 3 – Proteins	Unit 4 – Agricultural Biotechnology	Unit 5 – Research Methods
CCSS: Conceptual Category – Number and Quantity						
The Real Number System	• Extend the properties of exponents to rational exponents.					
	• Use properties of rational and irrational numbers.					
Quantities	• *Reason quantitatively and use units to solve problems.		X			
The Complex Number System	• Perform arithmetic operations with complex numbers.		X			
	• Represent complex numbers and their operations on the complex plane.					
	• Use complex numbers in polynomial identities and equations.					
Vector and Matrix Quantities	• Represent and model with vector quantities.					
	• Perform operations on vectors.					
	• Perform operations on matrices and use matrices in applications.					
CCSS: Conceptual Category – Algebra						
Seeing Structure in Expressions	• *Interpret the structure of expressions.	X	X			
	• *Write expressions in equivalent forms to solve problems.		X			
Arithmetic with Polynomials and Rational Expressions	• Perform arithmetic operations on polynomials.	X	X			
	• Understand the relationship between zeros and factors of polynomials.					
	• Use polynomial identities to solve problems.					
	• Rewrite rational expressions.					
Creating Equations	• *Create equations that describe numbers or relationships.		X			
Reasoning with Equations and Inequalities	• Understand solving equations as a process of reasoning & explain the reasoning.		X			
	• Solve equations and inequalities in one variable.		X			
	• Solve systems of equations.	X				
	• *Represent and solve equations and inequalities graphically.					

		Unit 1 – Introduction to Biotechnology	Unit 2 – DNA Technologies	Unit 3 – Proteins	Unit 4 – Agricultural Biotechnology	Unit 5 – Research Methods
CCSS: Conceptual Category – Functions						
Interpreting Functions	• Understand the concept of a function and use function notation.	X				
	• *Interpret functions that arise in applications in terms of the context.					
	• *Analyze functions using different representations.					
Building Functions	• *Build a function that models a relationship between two quantities.					
	• Build new functions from existing functions.					
Linear, Quadratic, and Exponential Models	• *Construct and compare linear, quadratic, and exponential models and solve problems.					
	• *Interpret expressions for functions in terms of the situation they model.					
Trigonometric Functions	• Extend the domain of trigonometric functions using the unit circle.					
	• *Model periodic phenomena with trigonometric functions.					
	• Prove and apply trigonometric identities.					
CCSS: Conceptual Category – Statistics and Probability						
Interpreting Categorical and Quantitative Data	• *Summarize, represent, and interpret data on a single count or measurement variable.			X		X
	• *Summarize, represent, and interpret data on two categorical and quantitative variables.					
	• *Interpret linear models.			X		
Making Inferences and Justifying Conclusions	• *Understand and evaluate random processes underlying statistical experiments.					X
	• *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.			X		X
Conditional Probability and the Rules of Probability	• *Understand independence and conditional probability and use them to interpret data.					
	• *Use the rules of probability to compute probabilities of compound events in a uniform probability model.					
Using Probability to Make Decisions	• *Calculate expected values and use them to solve problems.					
	• *Use probability to evaluate outcomes of decisions.					