

Planned Course: Statistics	Course Number: M313	Department: Mathematics	
Unit: Probability	Grade Level: 10-12		
Estimated Time: 20 days	Level/Track:	Date Approved: 7/15/08	
PA Academic Standards	Core Concepts (in question format) • Skills/Knowledge	Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)	Assessments (include types and topics)


<p>2.7.11 Probability and Predictions</p> <p>B. Apply probability and statistics to perform an experiment involving a sample and generalize its results to the entire population.</p> <p>C. Draw and justify a conclusion regarding the validity of a probability or statistical argument.</p>	<p>► What are random phenomena?</p> <ul style="list-style-type: none"> • The student will understand that probability describes the long-run regularity of random phenomena. • The student will interpret the probability of an event as the proportion of times the event occurs in very many repetitions of a random phenomena. • The student will understand that short runs of random phenomena do not display the regularity described by probability. 	<ul style="list-style-type: none"> – Textbook exercises – Supplemental worksheets – Experiments using dice, cards, coins, and calculator simulations to discover theoretical probabilities – Videos (Against All Odds: Inside Statistics”, The Annenberg/CPB Collection) – Computer websites (applets, data sources, teacher resources) – Computer statistical packages (Data Desk and Jump-Intro) 	<ul style="list-style-type: none"> • Quizzes • Tests • Homework • Classwork and participation • Group and/or individual projects
<p>B. Apply probability and statistics to perform an experiment involving a sample and generalize its results to the entire population.</p> <p>D. Use experimental and theoretical probability distributions to make</p>	<p>► What is a probability model?</p> <ul style="list-style-type: none"> • The student will be able to use basic probability facts to detect illegitimate assignments of probability. • The student will be able to use basic probability 		

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<p>judgments about the likelihood of various outcomes in uncertain situations.</p> <p>A. Compare odds and probability.</p> <p>E. Solve problems involving independent simple and compound events.</p>	<p>facts to find the probabilities of compound events and complementary events.</p> <ul style="list-style-type: none"> • The student will be able to find the probability by adding the probability of the outcomes that make it up. <p>▶ When are events mutually exclusive?</p> <ul style="list-style-type: none"> • The student will be able to determine when events are mutually exclusive. • The student will be able to use the Addition Rule for “or” probabilities that are both mutually exclusive or not. • The student will be able to use Venn diagrams to determine probabilities. <p>▶ When are events independent?</p> <ul style="list-style-type: none"> • The student will be able to identify independent events. 		
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<p>2.6.11 Statistics and Data Analysis</p> <p>I. Describe the normal curve and use its properties to answer questions about sets of data that are assumed to be normally distributed.</p>	<ul style="list-style-type: none"> • The student will be able to use the Multiplication Rule for events that are independent or dependent. ▶ What is as normal probability function? • The student will be able to find the probability of an event that follows a normal distribution by finding the area under a normal curve. • The student will be able to find normal probabilities using both a table and a graphing calculator. 				
<p>2.7.11 Probability and Predictions</p> <p>A. Compare odds and probability.</p>	<ul style="list-style-type: none"> ▶ What are odds? • The student will be able to recognize the difference between odds and probability. • The student will be able to find the odds in favor of or against an event. • The student will know the difference between actual and payoff odds. 				

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