2019-2020 AP Class Meeting

Schoology Group

 Join the Advanced Placement at Rogers High School Group in Schoology:

Access Code

FKN56-4XQ6Q

Summer Assignment General Information

- Benefits of AP
- You will be taking the AP test for each class you're signed up for next year.
- If the AP class you signed up for has a summer assignment, you need to complete it before you return!
- If you feel like this is too much for you to take on, talk to your counselor ASAP!

How do you get books for the summer assignment?

- Immediately after this meeting is concluded go over to the library where you will be able to check out your books
 - If you do not get it today the main office is open from 8-2 next week and then will be closed until early August

• PLEASE DO NOT check out a book if you are positive you are going to be doing Running Start.

Library Procedures for AP Courses/Textbooks/ Summer Assignments

- THE ONLY CLASSES THAT NEED TEXTBOOKS ARE:
 - AP Chemistry-Chemistry book
 - AP Biology-Biology Book
 - AP Senior English-Death of a Salesman
 - AP Psychology Psych Textbook
 - AP US History Main Textbook

Mathematics

- AP Calculus
 - Mr. Wilber
- Pre-Calculus
 - Mrs. Query
- AP Statistics
 - Mr. Beni

Topics in AP Calculus

 $(\sin) = \cos$

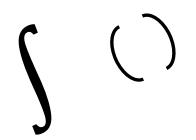
Pre-Calculus Topics to Know Really Well

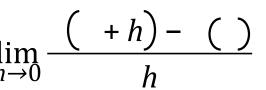
- Graphing
- Solving Equations
- Logarithms
- Exponentials
- Trig Equations
- Trig Graphs
- 12 Basic Functions

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Basic Calculus Concepts

- Limits
- Continuity
- Tangent Lines
- Slopes of Curves
- Rates of Change Average and Instantaneous



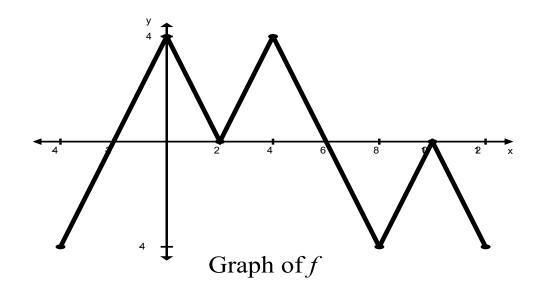


First Main Concept—Derivatives

- Rules: Product, Quotient, Power, Chain, Trig
- Particle Motion: Position, Velocity, Acceleration, and Speed
- Linear Approximation
- Extreme Values
- Concavity
- Inflection Points
- Related Rates

Second Main Concept—Integrals

- Area Under a Curve, Between Curves
- Accumulation
- Average Value
- Fundamental Theorem of Calculus
- Volumes of Revolution and Solids



The figure above shows the graph of the piecewise-linear function f. For -442x the function g is defined by $gx(ft) \neq \int_2^x (x)^{-x} dx$.

- (a) Does g have a relative minimum, a relative maximum, or neither at x=10? Justify your answer.
- (b) Does the graph of g have a point of inflection at x=4? Justify your answer.
- (c) Find the absolute minimum value and the absolute maximum value of g on the interval –442x Justify your answer.
- (d) For -442x find all intervals for which $gx() \le 0$.



0

Pre-Calculus

[dual credit available through CWU]

This course expands on what you learned in Pre-AP Algebra II (advanced algebra, functions, trigonometry) and then introduces new topics (matrices, conic sections, and derivatives).

- Each semester has a comprehensive final worth 20% of your overall grade.
- You will have homework every night (30-60 minutes on average).
- This class is faster and more challenging than Pre-AP Algebra II.
- There is a summer assignment.









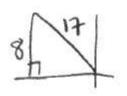
Sample problems (from 2nd semester final review)

Use a double-angle or half-angle identity to find the exact value of each expression. Rationalize & simplify.

9.
$$\sin \theta = \frac{8}{17}$$
 and $\frac{\pi}{2} < \theta < \pi$

Find $\cos 2\theta$

$$\begin{array}{r}
\cos 2\theta = 1 - 2\sin^2\theta \\
= 1 - 2\left(\frac{8}{19}\right)^2 \\
= 1 - 2\left(\frac{64}{289}\right)^2 \\
= \frac{161}{289}
\end{array}$$



10.
$$\csc \theta = -\frac{17}{8}$$
 and $\frac{3\pi}{2} < \theta < 2\pi$
Find $\sin \frac{\theta}{2}$

$$\sin \frac{\theta}{2} = \pm \sqrt{\frac{1-\cos\theta}{2}} \quad \text{half of everything} \quad b=15$$

$$= \sqrt{\frac{1-\frac{15}{4}}{2}} = \sqrt{\frac{\frac{17-\frac{15}{4}}{2}}{2}} = \sqrt{\frac{\frac{2}{17}-\frac{1}{2}}{2}} = \sqrt{\frac{1}{17}-\frac{1}{2}} = \sqrt{\frac{1}{17}$$





Goals of AP Statistics

- Plan and conduct a study
- Describe patterns and departures from patterns
- Explore random phenomena using probability and simulation
- Estimate population parameters and test hypotheses

Approximately 80% of college majors require some form of Statistics...

The next slide is a list of college majors that either require a Statistics class or where the quantitative methods of Statistics is required.

College Majors Requiring Statistics

AGRICULTURAL SCIENCES

Agricultural and Environmental Plant Sciences Agricultural Business Agricultural Communication Agricultural

Education

Agricultural Mechanization and Business Agricultural Systems Management

Agronomy

Animal and Veterinary Sciences

- Animal Agribusiness
- Equine Business
- Preveterinary and Science

Crop Science

Culinary Science Dairy Science

Fisheries and Aquatic Sciences

Food Science

Food Science and Technology

Nutrition and Dietetics

Forest Resource Management

Forestry and Natural Resources Horticulture

Plant and Environmental Sciences

Plant Genetics

Plant Science

Soil and Water Sciences

Wildlife and Fisheries Biology

Wine and Viticulture

MEDICAL PROFESSIONS

Exercise Studies

Health Information Management

Health Science

- Cardiovascular Imaging Leadership
- Health Promotion and Education
- Health Services Administration

Kinesiology

Movement and Sport Sciences

Nursing Nutrition

Occupational Health

Occupational Therapy

Pharmaceutical Sciences

Physical Therapy

Pre-Pharmacy

Pre-Rehabilitation Sciences

Respiratory Care

Speech Language Hearing

BUSINESS

Accounting

Actuarial Science

Advertising

Aviation Management

Business

Business Administration

Construction Management

Finance

Financial Management

Game Studies

Information Science

Management

Marketing

Operations Research Public Administration

Recreation, Parks, and Tourism

Administration

ENGINEERING

Aerospace Engineering

Agricultural Engineering Architectural

Engineering

Bioengineering

Biomedical Engineering

Bioresource and Agricultural

Engineering

Chemical Engineering

Civil Engineering

Computer Information Systems

Computer Science

Computer Software Engineering

Construction Science and

Management

Electrical Engineering

Engineering Management and

Protection

Environmental and Natural Resources

Environmental Engineering

Industrial Design

Industrial Engineering Industrial Management

Industrial Technology and Packaging

Landscape Architecture

Materials Science and Engineering

Mechanical Engineering

Packaging Science

Robotics

MATHEMATICS AND SCIENCE

Animal Behavior

Animal Science

Applied Mathematics

Applied Meteorology and Climatology

Applied Physics

Astronomy Atmospheric Science

Biological Sciences

Brain and Behavioral Science

Chemistry

Clinical Laboratory Science

Comprehensive Science

Earth Science Entomology

Environmental Science

Genetics, Geology

Geophysics, Hydrogeology

Marine Sciences, Mathematical Sciences

Mathematics, Meteorology

Microbiology, Neuroscience

Physics

Planetary Science

Pre-Health

Pre-Veterinary Medicine

Statistics

SOCIAL STUDIES

AND THE HUMANITIES

Anthropology

Archaeology

Child Development

City and Regional Planning Communication

Studies Comparative Ethnic Studies

Criminal Justice Criminology

Developmental and Family Science

Economics Education

Environmental Studies

Film and Video Studies

Geography

Graphic Communications

History

Journalism

Language and International Health

Liberal Studies

Library Science Linguistics

Mathematics Teaching

Political Science

Public Policy

Psychology

Public Health

Sociology Urban Studies Statistics is about <u>real life</u>. As a result, questions are <u>word problems</u> with real life application. Here is an example of a question from Goal 1: Plan and Conduct a Study.

Before beginning a unit on frog anatomy, a seventh-grade biology teacher gives each of the 24 students in the class a pretest to assess their knowledge of frog anatomy. The teacher wants to compare the effectiveness of an instructional program in which students physically dissect frogs with the effectiveness of a different program in which students use computer software that only simulates the dissection of a frog. After completing one of the two programs, students will be given a posttest to assess their knowledge of frog anatomy. The teacher will then analyze the changes in the test scores (score on posttest minus score on pretest).

- (a) Describe a method for assigning the 24 students to two groups of equal size that allows for a statistically valid comparison of the two instructional programs.
- (b) Suppose the teacher decided to allow the students in the class to select which instructional program on frog anatomy (physical dissection or computer simulation) they prefer to take, and 11 students choose actual dissection and 13 students choose computer simulation. How might that self-selection process jeopardize a statistically valid comparison of the changes in the test scores (score on posttest minus score on pretest) for the two instructional programs? Provide a specific example to support your answer.

English/Language Arts

- AP Seminar
 - Ms. Leonardy and Ms. Waring
- AP Research
 - Ms. Waring
- AP Language
 - Ms. Leonardy and Ms. Waring
- AP Literature and Composition
 - Ms. Hallberg

AP Seminar

- Instructors:
 - Ms. Waring warinnm@Puyallup.k12.wa.us
 - · Mrs. Leonardy leonarre@Puyallup.k12.wa.us

 Make sure you join the RHS Schoology Group!

What Will We Do?

- Question & Explore Current Issues
- Research and Present Information
- Collaborate Successfully with a Team
- Participate in Rewarding Discussion
- Prepare for College Success

Expectations

- Apply feedback
- ·Manage your time
- ·Communicate with a team
- Attend class consistently
- Advocate for yourself
- Complete your work thoroughly
- Encourage your classmates

Announcements

- ·Pick up a Summer Assignment
- ·If you plan to drop this course, please do so ASAP.
- ·If you are on the waiting list, check your email at the end of August.

AP Research

- Instructors:
 - · Ms. Waring warinnm@Puyallup.k12.wa.us

Make sure you join the RHS Schoology Group!

What Will We Do?

- Complete a year-long research study.
- Present your findings in an academic paper and presentation.

There is a Summer Assignment.

AP LANGUAGE & COMPOSITION (JUNIOR ENGLISH)

This course tests your skills in <u>composition</u> and <u>comprehension</u>, requires close reading, thoughtful rhetorical analysis, and purposeful argumentation.

Composition, mostly in the form of many on-demand essays, includes:

- Analytical writing with a focus on rhetorical strategies an author uses to construct their work.
- Argumentative writing and the ability to deconstruct an author's argument.
- Synthesis of information from multiple sources to support an argument.

Comprehension, mostly in the form of frequent multiple choice quizzes, are given to further test skills in rhetorical analysis of prose passages. Sample quiz question:

- 10. What purpose do lines 63-74 ("You may ... own feeling") serve?
 - (A) They contrast the appeal of a writer who merely confirms his readers' views with that of a writer who boldly challenges them.
 - (B) They develop an analogy between the kinds of individuals people are attracted to and the kinds of writing they prefer.
 - (C) They challenge the idea that writers modify their ideas to appeal to a wide range of readers.
 - (D) They examine whether relationships based on shared ideas and interests are rewarding to both parties.
 - (E) They provide examples from various writers in which the appearance of good and evil is deceptive.

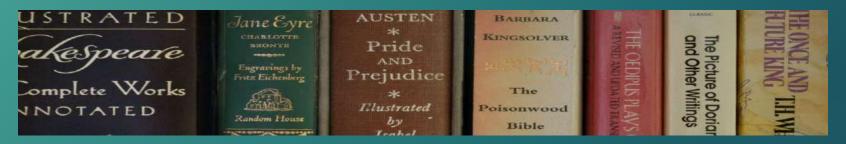
Expectations/Requirements

- Complete frequent, short reading and writing homework assignments.
- Attend class regularly and use your time wisely.
- Participate in class discussions.

***There is a SUMMER ASSIGNMENT on Schoology.



AP Literature and Composition



- As stated in the course title, it is a class dedicated to the reading of literature and writing about it. Discussion and analysis are the core of the class.
- This course has an emphasis on world literature, utilizing texts from varying times and places, ancient to contemporary. To understand the intent of the authors (and in many cases their characters), we must also work to understand their *context*.
- Study includes an intense repertoire of poetry, short stories, novels, and drama, requiring a high degree of commitment and a strong work ethic.

 Students can expect daily reading and writing assignments, generally 30-45 minutes.
- There is a summer assignment. Please come and see me with questions before the close of the school year.

2013 AP® ENGLISH LITERATURE AND COMPOSITION FREE-RESPONSE QUESTIONS

A sample
essay
question from
a recent
exam

Question 3

(Suggested time—40 minutes. This question counts as one-third of the total essay section score.)

A bildungsroman, or coming-of-age novel, recounts the psychological or moral development of its protagonist from youth to maturity, when this character recognizes his or her place in the world. Select a single pivotal moment in the psychological or moral development of the protagonist of a bildungsroman. Then write a well-organized essay that analyzes how that single moment shapes the meaning of the work as a whole.

You may choose a work from the list below or one of comparable literary merit. Do not merely summarize the plot.

The Adventures of Augie March Adventures of Huckleberry Finn

All the Pretty Horses

Atonement

Black Boy

Breath, Eyes, Memory Brown Girl, Brownstones

The Catcher in the Rye

Cat's Eye
The Chosen

The Cider House Rules

The Color Purple

David Copperfield

The God of Small Things

The Grapes of Wrath Great Expectations

The House on Mango Street

Invisible Man

Jane Eyre

Jasmine

The Joy Luck Club

The Joys of Motherhood

The Namesake

A Portrait of the Artist as a Young Man

Purple Hibiscus

The Secret Life of Bees

A Separate Peace

Siddhartha

Song of Solomon

The Sorrows of Young Werther

The Sound and the Fury

The Story of Edgar Sawtelle

Their Eyes Were Watching God

A Thousand Splendid Suns

To Kill a Mockingbird

A Tree Grows in Brooklyn

The Woman Warrior

Science

- AP Biology
 - Ms. Cosme
- AP Chemistry
 - Mr. Schwebke
- AP Physics
 - Mr. Whitley

AP BIOLOGY

MUST DO'S

- SUMMER ASSIGNMENT
- READ & REVIEW NOTES NIGHTLY
- BRING IN QUESTIONS DAILY
- COMPLETE ONE FRQ PER WEEK
- COMPLETE LABS EACH WEEK





HELPFUL HINTS FROM THE PROS

- * USE QUIZLET APP FOR VOCAB
- * WATCH BOZEMAN VIDEOS
- * GET A TEST PREP BOOK EARLY
- * ASK FOR HELP WHEN NEEDED
- * TAKE PRACTICE EXAMS

"BIOLOGY...THE ONLY SCIENCE WHERE MULTIPLICATION & DIVISION MEAN THE SAME THING"

2019 AP BIO EXAM FRQ

2019 AP® BIOLOGY FREE-RESPONSE QUESTIONS

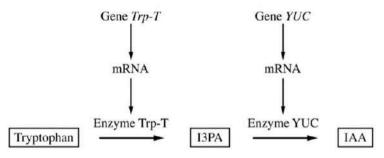


Figure 1. Model of two-step enzymatic plant pathway for synthesis of IAA from tryptophan

- 1. Auxins are plant hormones that coordinate several aspects of root growth and development. Indole-3-acetic acid (IAA) is an auxin that is usually synthesized from the amino acid tryptophan (Figure 1). Gene *Trp-T* encodes an enzyme that converts tryptophan to indole-3-pyruvic acid (I3PA), which is then converted to IAA by an enzyme encoded by the gene *YUC*.
 - (a) Circle ONE arrow that represents transcription on the template pathway. Identify the molecule that would be absent if enzyme YUC is nonfunctional.
 - (b) Predict how the deletion of one base pair in the fourth codon of the coding region of gene Trp-T would most likely affect the production of IAA. Justify your prediction.
 - (c) Explain one feedback mechanism by which a cell could prevent production of too much IAA without limiting I3PA production.
 - (d) Rhizobacteria are a group of bacteria that live in nodules on plant roots. Rhizobacteria can produce IAA and convert atmospheric nitrogen into forms that can be used by plants. Plants release carbon-containing molecules into the nodules. Based on this information, identify the most likely ecological relationship between plants and rhizobacteria. Describe ONE advantage to the bacteria of producing IAA.
 - (e) A researcher removed a plant nodule and identified several "cheater" rhizobacteria that do not produce IAA or fix nitrogen. Describe the evolutionary advantage of being a bacterial cheater in a population composed predominantly of noncheater bacteria. Plants can adjust the amount of carbon-containing molecules released into nodules in response to the amount of nitrogen fixed in the nodule. Predict the change in the bacterial population that would cause the plant to reduce the amount of carbon-containing molecules provided to the nodule.

AP Chemistry

To be successful:

Complete daily assignments and nightly readings as assigned (Don't try to play catchup)

Ask questions

Complete pre-labs prior to day of lab

Study as many FRQs as possible

Watch videos

Get a test prep book

Recommendations:

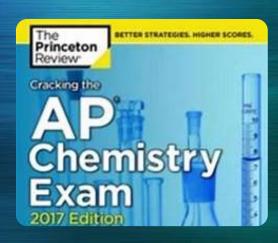
AP Cliff Notes: AP Chemistry

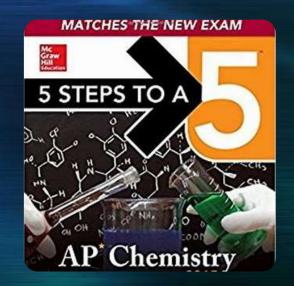
5 Steps to a 5: AP Chemistry

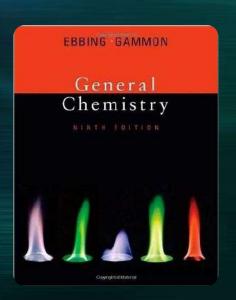
AP Chemistry Practice Questions

Princeton Review: Cracking the AP Exam





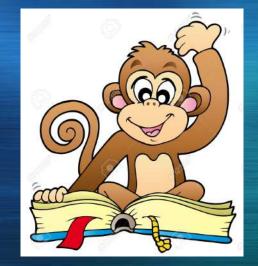




Are you ready for AP-Chemistry?

- You have strong math skills
- You got an A in Pre-AP Chemistry
- You always complete assignments and readings on time
- You have time every night to complete assignments or review concepts
- You ask questions or seek help when needed
- You attend class daily

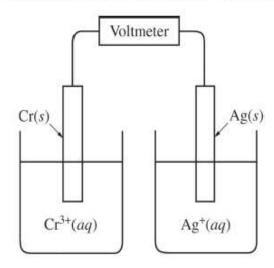




Concepts to review over the summer:

- Element names and symbols
- Significant figures
- Naming compounds
- Density
- Physical and Chemical properties/change
- Writing and balancing chemical equations
- Stoichiometry

2018 AP® CHEMISTRY FREE-RESPONSE QUESTIONS



- 6. A student sets up a galvanic cell at 298 K that has an electrode of Ag(s) immersed in a 1.0 M solution of $Ag^+(aq)$ and an electrode of Cr(s) immersed in a 1.0 M solution of $Cr^{3+}(aq)$, as shown in the diagram above.
 - (a) The student measures the voltage of the cell shown above and discovers that it is zero. Identify the missing component of the cell, and explain its importance for obtaining a nonzero voltage.

Half-Reaction	$E^{\circ}(V)$
$Ag^{+}(aq) + e^{-} \rightarrow Ag(s)$	+ 0.80
$Cr^{3+}(aq) + 3e^- \rightarrow Cr(s)$?

- (b) The student adds the missing component to the cell and measures E_{cell}° to be +1.54 V. As the cell operates, Ag^{+} ions are reduced. Use this information and the information in the table above to do the following.
 - (i) Calculate the value of E° for the half-reaction $Cr^{3+}(aq) + 3e^{-} \rightarrow Cr(s)$.
 - (ii) Write the balanced net-ionic equation for the overall reaction that occurs as the cell operates.
 - (iii) Calculate the value of ΔG° for the overall cell reaction in J/mol_{rxn}.

AP Physics

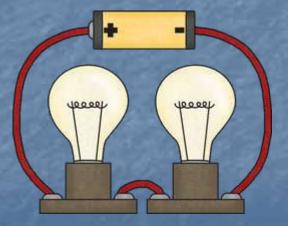
Topics

- Unit 1 Motion and Force
- Unit 2 Gravity and Rotation
- Unit 3 Momentum and Energy
- Unit 4 Oscillations and Waves
- Unit 5 Electricity and Magnetism

Post Test

Unit 6 - Properties of Light and Optics





Sample AP Physics Problem

Two small spheres are each given + 1 nC of charge and placed 1 cm apart (0.01m). What is the force of repulsion between the two spheres?

$$F = {}_{(9.0 \text{ x } 10^9 \text{ Nm}^2/\text{C}^2)} (1 \times 10^{-14} \frac{\text{C}^2}{\text{FH}^2})$$

$$F = (9.0 \times 10^{-5} \text{ N})$$

Foreign Language

- AP Spanish
 - Ms. Langston

AP Spanish 4 - Study of Spanish Language and Culture

The AP Spanish 4 Class will prepare students for the AP Spanish Language and Culture Exam which assesses students' proficiencies in the interpersonal, interpretive, and presentational modes of communication.

As much as possible, students read and listen to authentic texts from the Spanish-speaking world throughout the exam.

Students will prepare for the 3 major components of the AP Exam:

- 1. 65 multiple choice questions that include reading and listening sections
- 2. A two-part written section that includes a response to an email and a persuasive essay
- 3. A speaking section where you hold a conversation and respond to prompts

Students will be immersed in the language in an all Spanish spoken classroom that encourages students to read and respond to authentic material, hold discussions to enhance their language skills, and improve their writing through various quick responses and longer essay writing.

This class will be a chance to increase language skills while learning new culture and diving deeper into the beautiful language, music, history and cultures of the many Spanish speaking countries around the world. iBienvenidos a la clase y la oportunidad mejorar tu Español!

Ways to stay connected & informed over the summer:

 Join the Schoology group D2BX9-9WFS9 to see the summer discussions

Use the following link to check out test samples and information:

http://apcentral.collegeboard.c om/apc/public/exam/exam_inf ormation/4554.html#2015

Summer Assignment 2018/19

You will be completing an AP Spanish Scavenger Hunt over the summer. This will be posted in the AP Spanish Schoology Page.

Social Studies

- AP Psychology
 - Ms. Turner
- AP US History
 - Mr. Carlson
- AP Government
 - Mr. Zentz

AP PSYCHOLOGY

Mrs. Turner

AP PSYCHOLOGY

Workload/requirements:

- About an hour a night
- Finish readings and assignments BEFORE to class
- Keep and organize all work
- Be in class and participate in activities

The Exam:

- 100 Multiple Choice questions
- 2 Free-Response Questions

SAMPLE FREE-RESPONSE QUESTION

Scenario, issue, or problem

Define and apply 6-8 Psychology terms

Ex. Two high-school kids take lots of classes together and go to the same college. How do these concepts increase the likelihood of a romantic relationship between them?

- Proximity
- Mere exposure effect
- Altruism
- Companionate love

SUMMER ASSIGNMENT

- Read Unit 1: Psychology's History and Approaches
 - Read (26 pages)
 - Color-coded notes
 - Vocab/Key term chart
 - Complete quizzes
 - Multiple Choices in Schoology
 - FRQs written/ready for first day of school



Unit 1 Exam Thursday September 5th

AP US History

- ▶ This course covers US History from ~1300 present times.
 - Wide range of historical perspectives including Social, Political, Economic
 & Cultural history
 - Work to understand & apply primary source documents
 - Understand both the events & the context that surrounds them
- About 1.5-2 hours of homework / reading a night
 - Strong work ethic is needed to keep up on assignments, falling behind can lead to a spiral
- Assessments:
 - Essays, Multiple Choice tests & quizzes, projects, presentations & class discussions
- There is a summer assignment!!

Suggested writing time: 35 minutes

Directions: Choose EITHER Question 2 or Question 3.

In your response you should do the following.

- Thesis: Present a thesis that makes a historically defensible claim and responds to all parts of the question. The
 thesis must consist of one or more sentences located in one place, either in the introduction or the conclusion.
- Application of Historical Thinking Skills: Develop and support an argument that applies historical thinking skills as directed by the question.
- Supporting the Argument with Evidence: Utilize specific examples of evidence to fully and effectively substantiate the stated thesis or a relevant argument.
- Synthesis: Extend the argument by explaining the connections between the argument and one of the following.
 - A development in a different historical period, situation, era, or geographical area.
 - A course theme and/or approach to history that is not the focus of the essay (such as political, economic, social, cultural, or intellectual history).
 - Evaluate the extent to which the ratification of the Fourteenth and Fifteenth Amendments to the Constitution marked a turning point in the history of United States politics and society.
 - In the development of your argument, explain what changed and what stayed the same from the period immediately before the amendments to the period immediately following them. (Historical thinking skill: Periodization)

AP Government Course Description

This course will give students an analytical perspective on government and politics in the United States. The course is a two semester course that is the equivalent to an introductory college-level course in United States Government. In addition, it will also prepare students for the opportunity to take the AP U.S. government and politics exam in May. Course content will cover general concepts used to interpret Ŭ.S. politics and the analysis of specific examples. Familiarity with the various institutions, groups, beliefs and ideas that constitute U.S. Government and politics is the foundation of skill development in this class.

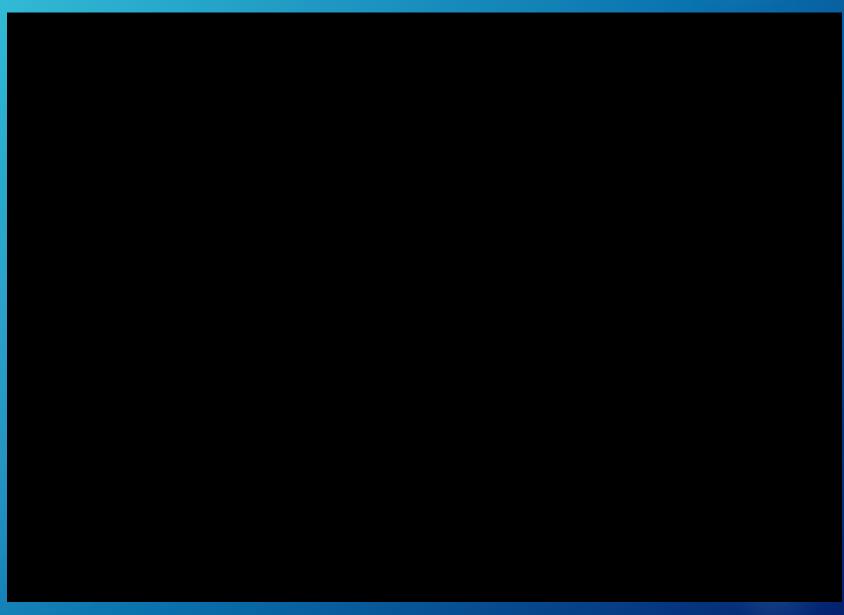
Textbook

- George C. Edward, Martin P. Wattenburg, and Robert L. Lineberry. Government in America: People, Politics, and Policy, 10th ed. New York: Addison Wesley Educational Publishers, Inc.,2002.
- Woll, Peter, American
 Government: Readings and Cases,
 New York: Pearson Longman, 1999

Current Events

Students are responsible for keeping up with the daily events in the nation and the world. Students can find important information on Mr. Zentz's home page on eschools. Websites and Links to important news sources can be found at the following address.

Sample FRQ (Free Response Question)



Schoology Group

Join the Advanced Placement at Rogers High School Group in Schoology:

Access Code

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Good luck!

