

Course Descriptions for 2013-2014

Science

PHYSICS I: MECHANICS

Open to All Students

Did you ever wonder how planes fly, roller coasters thrill, catapults are built, or safety features are designed? If so, then this is the course for you! In this class we will explore these and other questions YOU have. By the end of this course you will be able to use the basic principles of physics (motion, forces, and energy) to explain how things in our daily lives are designed and function. Though students will be intellectually challenged and required to use important critical thinking skills, each topic we study will end in a project based on a real-world application of the material covered. So come ready to build a better understanding about the world you *thought* you knew.

PHYSICS II: ELECTRICITY, MAGNETISM & WAVES

Pre-requisite: Physics I

Building on the understanding created in Physics I, we will continue to explore and model our world. In this course we will focus on the phenomena of electricity, magnetism, sound, and light! Together we will learn how to create a lighting system for a house, examine how motors work, design musical instruments, and create small circuits that can be controlled by computers. As with Physics I, we will continue to build our ability to solve complex problems and analyze data, as well as engage in the engineering-design process. Come ready to uncover more of the mysteries of the way our universe works!

Biology- Mr. Whelton

This course will cover the required material needed to earn one year of Biology credits. This rigorous, engaging course is intended for students who are interested in learning and understanding how life on Earth works. While incorporating hands-on activities and experiments, students will learn a great deal about the structures that living organisms are composed of, the processes necessary for organisms to survive, and how life changes over time. For example, questions that we will investigate include the following:

- Why do offspring resemble their parents?

- How do we know if something should be considered living or nonliving?
- How do our genes affect us?
- Why do so many species have two parents instead of just one?

Advanced Placement Environmental Science – Mr. Whelton For SENIORS Only

Life on Earth is interconnected. The consequences of changes to the environment are never limited to one population or even one species; they can have widespread ramifications. From agriculture to climate change to extinction, our own species has been impacting the Earth and its other inhabitants for thousands of years. This rigorous two-semester course is intended to help students understand how organisms interact with other organisms and their own environments, how humans have changed conditions for life on Earth for better or worse (ex. pollution, global warming, etc.), and how students can live in a more sustainable manner. Some potential questions for investigation include:

- How do environments change over time? For example, what happens after a forest fire?
- What viable alternatives to fossil fuels exist? What has to happen for them to become prevalent?
- How does agriculture affect global warming?
- How can we deal with the increasing needs of a human population that only continues to grow?

This course is demanding and intended to model the pace and breadth of a freshman college class. While classes will continue to include hands-on activities and opportunities for students to research and conduct experiments independently, the reading and independent workload will be higher than students may be accustomed to previously. Additionally, this course prepares students for the AP Environmental Science exam. Students can choose to take the exam in May 2014 and receive credit for college (provided they score high enough). This course is designed to prepare students for the exam, but the test itself is optional. There is also a fee associated with the exam, but scholarships should be available.

Computer Science- Mr. Irimina- Seniors Only

This science course is designed to introduce students to the field of Computer Science by using engaging topics and a variety of tools. Seniors who take this course and pass it will meet their senior science requirement.

The students will be exploring topics related to computers and the Internet, models of intelligent behavior, algorithms, programming and the impact of computing on our society.

Students will be able to prototype, build and test web applications and cell phone (Android) apps using blocks based programming and text based programming languages used in the industry.

The three main themes of the course are: the creative nature of computing, technology as a tool for solving problems, and how computer science is relevant today.

Rather than focusing on learning a particular software tool or programming language, the course is designed to help you understand why certain tools or languages might be used to solve particular problems. This is a course that will give you real world career skills and you do not have to be a computer whiz to enroll.

ENGLISH

Do the Right Thing: Representations of Morality and Immorality in Literature –Ms. Candlin- 12th grade Only

“Morality, like art, means drawing a line someplace.”

Oscar Wilde (1854 - 1900)

The golden rule, do unto others as you wish they do unto you -- countless reiterations in religious and secular texts tell us to be good. But what does it mean to be good? In this class, we will spend the year looking at how texts communicate ideas about what's right and wrong. We will consider how philosophers, authors and other artists lead us down the imaginary paths of good and bad choices and reveal the consequences of each. We will also learn about our human instinct to see life in binary terms: good/evil, black/white, and reward/punishment and how these constructions shape our beliefs and intellects. Each unit will include an introduction to a philosophical framework and a variety of fiction, mostly short stories, novels and film. We will begin the year by looking at ancient texts, including Plato's Ethics and the Bible and progress through more contemporary western philosophers, including John Locke, Friedrich Nietzsche, and Judith Butler. At the end of the year, you will develop your own philosophy of morality and reflect on its development through your exposure to ideas, aesthetic experiences, and personal history.

Students will be expected to complete nightly reading assignments and weekly or bi-weekly essays aligned with the 11th and 12th grade college and career readiness standards. First semester will culminate in a comparative paper that can easily be extended into an English Exhibition. Seniors can expect more whole class discussion,

opportunities for presentations, and creative writing opportunities than in their Junior year, especially second semester.

I'm Doing Me: Personal Identity and Representations of Self in Literature and Beyond

Ms. Candlin- 11th grade only

“Through others we become ourselves.”

— [Lev S. Vygotsky](#)

Who are you? What does it mean to “be yourself?” In this class, we will explore how literature, theory, and pop-culture answer these existential questions and inform our understanding of ourselves and others. We will begin the year by reflecting on the texts that shape our current identities and then move into units that explore how identity is formed and represented in fiction and other texts. Areas of study may focus on Myth and Freudian Theory, Gender Studies and Queer Theory, Marxism, and Formalism.

Through careful examination of texts and focused work on the writing process, we will explore identity issues while improving our ability to focus, organize, develop, and articulate our ideas. Expect to read more than ever, complete weekly writing assignments designed to fulfill the 11th and 12th grade Common Core standards and prepare for your Regent's exam. Each semester, you will write one longer paper that can be extended into an English exhibition.

A.P. English Literature and Composition Ms McGinuss- Open to 12th grade students only

The purpose of art, according to Shakespeare, is “to hold...the mirror up to nature.” In our course, we will consider how the image of ourselves that we see reflected in literature has shifted over time, as our perceptions of our individual identities and our shared humanity have changed, and the artistic forms we use to capture our essence have been revised and retooled. Course texts will, to a limited extent, be selected in light of students’ needs and interests. The reading list of longer works **might** include *Hamlet*, *A Portrait of the Artist as a Young Man* by James Joyce, *The Awakening* by Kate Chopin, *Their Eyes Were Watching God* by Zora Neale Hurston, and *The Real Life of Sebastian Knight* by Vladimir Nabokov. We will also delve into the work of poets like John Donne, Walt Whitman, William Blake, Emily Dickinson, W. H. Auden, William Carlos Williams, John Keats, and William Wordsworth, as well as the short stories of fiction writers like William Faulkner, Flannery O’Connor, Raymond Carver, J.D. Salinger, Franz Kafka, and Jhumpa Lahiri.

This is an advanced literature course in which we will engage in close reading and analysis of challenging literary works. It is intended to provide students with an

academic experience that reflects the rigors of a college-level literature class. We will read a broad range of contemporary and classic texts from a variety of genres, including the novel, short story, poetry, and drama. The focus of this course will be on thoughtful, nuanced discussion and written analysis of the readings. Students will have an opportunity to develop their critical reading and written communication skills through discussion, informal analytic writing, in-class essays, and longer, more formal papers. This class prepares students who conscientiously complete all coursework for the Advanced Placement Literature and Composition Exam administered in May.

Who Am I?_Ms. McGinnuss- Open to 11th and 12th grade students

As we have become more technologically advanced, our capabilities and our understanding of ourselves have started to seem limitless. But is progress always positive? Should we embrace our brave new world or run screaming in the other direction? In this course we will read a wide range of classic modern works as well as more contemporary texts that ask us to consider and reconsider what makes us human.

The first half of this course will be devoted to helping students improve their critical reading and analytic writing skills through short, whole-class texts, as well as longer works and novels that students will select in consultation with the instructor. To meet college- and career-readiness standards and to prepare students for Exhibitions, we will participate in a number of large- and small-group discussions intended to support critical thinking. Additionally, we will focus on improving our ability to write persuasively and analytically about literature through a variety of informal writing assignments, in-class essays, and longer, more polished pieces.

The second half of the course will build on the foundation of the first semester. Our focus will shift slightly in that we will engage in work that more closely resembles an introductory literature course at the college level, with an emphasis on whole-class novels and plays. Course readings **might** include Albert Camus' *The Stranger*, Samuel Beckett's *Waiting for Godot*, M.T. Anderson's *Feed*, and Cormac McCarthy's *The Road*. We will also read shorter works by Franz Kafka, Raymond Chandler, T.S. Eliot, and Jean-Paul Sartre.

SOCIAL STUDIES/HISTORY

Democratizing Twentieth Century America -Mr. Copeland-

Open to **ALL** incoming juniors and to incoming seniors who did **NOT** take Democratizing in 11th grade)

At the dawn of the Twentieth Century African Americans were regularly lynched, doctors were legally forbidden to share information about birth-control with women, striking workers were routinely accosted by hired enforcers and young men could be drafted to fight in wars, though they were not old enough to vote.

At what point did we truly become a democracy? Or maybe it's even fair to ask, are we there yet?

This course will explore the growing inclusiveness of American democracy during the Twentieth Century. Students will examine democratization as it relates to the following groups: women, labor, African Americans, Latinos and other people of color, anti-war activists, and gays and lesbians. Moreover, through reading, critical analysis and discussion, we will attempt to answer the following questions:

- 1 Why then? Why did this endeavor for reform [relating to a particular group] get underway when it did?
- 2 What gains were won? What gains were sought but not won?
- 3 If the reform was only partially achieved, what limited its attainment?

Students in this course will be required to write several independent research papers and participate in a group presentation that addresses these questions. The anchor text of the course will be *A People's History of the Twentieth Century*, by Howard Zinn. Supplemental reading will include primary source materials. By the end of the course, students will have a grasp of the critical events that shaped the United States during the twentieth century and a better understanding of the meaning of democracy and equality.

****This course is reading and writing intensive. Students should come in with a basic grasp of world history during the Twentieth Century as we will focus on the role the United States played in WWI, WWII and the Cold War. Students will produce several pieces of work that can be converted into history exhibitions.**

Politics and Government-Mr. Copeland

(Open to **ALL** incoming juniors and to seniors who DID NOT take Politics and Government in 11th grade)

More Americans can name all five members of "The Simpsons" than can name all five liberties protected by the First Amendment to the U. S. Constitution (MSNBC, 2006). What's that all about?

This course is designed for both the political novice and political junkie. Its goal is to prepare individuals to be conscious citizens, informed voters and critical thinkers.

We will start off exploring the forces that brought the U. S. Constitution into being and use primary and secondary sources to analyze the intentions of its framers. (We will also analyze the run up to the election and its results) Next, we will look at the role of

the Supreme Court in protecting, expanding and inhibiting liberty in the United States. We will also examine the so-called culture wars that have come to define the two parties and the degree to which social values defines one's own politics. The course will conclude with an analysis of alternative voting methods and third party movements in the United States.

Students in this course will be expected to keep up with quite a bit of readings, including newspapers and online journals. You will be assessed by your ability to participate in text-based discussions and to share your interpretations of class readings. You will also be expected to participate in a debate tournament and compose several response essays that can be converted into history exhibitions.

We will regularly view excerpts from a variety of news programs, ranging from The John Stewart Show to Meet the Press.

You should leave the class with answers and more questions to the following:

Did the Constitutions framers intend to create a revolutionary and democratic government?

How has the Supreme Court been used to expand and inhibit liberty?

Should the government be used to level the economic playing field?

The Reagan Revolution: Why did the United States make a turn toward the political and economic right during the 1980s?

US History: Connecting the Dots- Andy Snyder

"Four score and seven years ago our fathers brought forth upon this continent a new nation, conceived in liberty and dedicated to the proposition that 'all men are created equal'." – Abe Lincoln – the Gettysburg Address. It's important (and rarely acknowledged) that Lincoln said this as part of a big lie. It's also important to remember that he got shot in the back of the head.

Your life gets put together out of pieces that you and your family assemble out of the tool box provided by U.S. history. If you want to understand yourself, your own life, and your options in the future you need to understand some of the key aspects of the history of the culture that made you.

We will use the first semester to examine how core processes shaped the culture we live in – including genocide, slavery, and capitalism. We will connect those issues to our own lives as well as learn a basic timeline of key events in U.S. history. In the second semester we will emphasize the shaping of our own daily lives, and the lives of people around us, by key trends in U.S. history.

In all units we will emphasize multiple perspectives, original sources, and meaningful interpretation – we will emphasize you getting smarter by getting better at thinking, reading, writing, presenting, and contributing to your community.

Civics & Economics: Learning to Be Competent Adults- Andy Snyder

In our society, in some ways ruled by “the people”, adults are expected to be able to do an intelligent job of certain crucial tasks –including voting, serving on juries, responding to the military, and advocating for their communities. In this course we will read different perspectives on each of these tasks, role play and practice crucial skills, and participate in actual processes. For instance we will study the criminal justice system and we will spend time watching felony jury trials.

In our society adults are also expected to be able to manage their own economic lives – as workers, consumers, and community members. You’re going to have to be able to take care of yourself and maybe even earn enough money to support a family. How will you do it? You will also get to vote on candidates based on the politician’s perspectives on key economic policies - which economic policies would best support your hopes for your own life?

If you work hard in this course you will learn and practice what you need to be competent adults able to intelligently participate in our society’s decision-making and economic processes.

In all units we will emphasize multiple perspectives, original sources, and meaningful interpretation – we will emphasize you getting smarter by getting better at thinking, reading, writing, presenting, and contributing to your community

12th Grade Math

Calculus- Mr. Wilson

In this course we will be looking at differential and integral calculus and the ways in which these relate to the world around us. Topics we will cover include: limits, derivatives, optimization, antiderivatives, implicit differentiation and definite integrals. In addition to traditional forms of assessment, students will write at least one paper applying skills and concepts from class to real world scenarios.

Statistics-Mr. Wilson

In this course we will be looking at the different ways that statistics can be used (and sometimes misused) to describe the world around us and to make inferences and predictions about the future. Topics we will cover include: descriptive statistics, probability, the normal curve, surveying methods, correlation, and hypothesis testing. In addition to traditional forms of assessment, students will use statistical analysis tools to write original research papers and present their findings to the class.