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TEC

ONLINE ACADEMY

PROGRAM OF STUDIES

2012-2013



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TEC Online Academy Program of Studies 2012 - 2013



English:

TEC010 News Reporting

Participants in **News Reporting** will investigate how to discover and assess the nature of news. Students will evaluate and create short news packages relevant to the world in which they live. Students will collaborate online to generate ideas, discuss relevant issues, and share their news packages. In addition, participants will learn how to market themselves and their finished products. Topics include: responsible journalism, field interviewing techniques, propaganda, composing a news package and marketing a product.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
All	College Prep	Summer	None	Samantha Bookston – Needham

TEC011 Literature and Film (Honors)

Long before *Twilight* and *Harry Potter*, filmmakers have used literature as the basis for their works. The choices directors and screenwriters make in adapting novels evoke diverse results from their modern audiences. In this 18-week class, students will study *Sense and Sensibility* (1811, British), *The Namesake* (2003, American/Indian), and *Ethan Frome* (1911, American) as novels and films. Students will also pick one **book/movie** combination to independently study and report on. This course is for juniors and seniors and is honors level. Students must have successfully completed grades 9 and 10 English. Students who take this course should be independent learners who will read and take notes about four challenging novels and closely study four films. Books will be provided, but students will be responsible for locating and viewing films (with occasional screenings available at Millis High School). Weekly assignments will include short essays and forum discussions. Midterm and final assessments will be longer essays.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	Honors	First Semester, Second Semester, Summer	Successful completion of English 9 & 10	Abbey Dick – Millis

TEC012 Unforgettable Short Stories: Reading, Writing, and Critical Thinking

Short stories are undoubtedly the most compelling genre, combining narrative elements of fiction, the style of poetry, and the emotional power of drama in a short, digestible format. In just a few pages, authors can create unforgettable characters, devastating conflicts, and impossible situations. In this course, we'll study, discuss, and analyze some of the most remarkable short stories ever written, both from America and from around the world. Though we'll read some classic stories, many will be modern and contemporary. Many of the works have been made into fascinating films to watch and dissect. Assignments will include journals, discussions, and essays. Students will also write creative pieces of short fiction based on pieces we read.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	First Semester, Second Semester, Summer	Successful completion of English 9 & 10	Abbey Dick – Millis

TEC013 Writers' Seminar

Does writing scare you, or do you like to express your ideas on the page? Whatever the case, it is important to polish your writing skills to engage, inform, and impress readers. Wherever you go and whatever you do in the future, you will have to communicate through the written word. This course will benefit you by helping to improve your ability for self-expression and build confidence in composing and editing. The course is designed to help prepare students for college-level writing, but students who enjoy writing but do not plan on attending college may also participate. Participants will read the works of several contemporary professional authors (such as David Sedaris, Sherman Alexie, Amy Tan, and Joyce Carol Oates, among others) to examine techniques to integrate into their own pieces. In addition, students will be expected to share their work with other participants in order to revise, edit, and offer helpful feedback. Approaching writing as a process, attention will be paid to clarity, organization, coherence, and analysis. Students will be asked to write journals, discussion posts, and essays (encompassing expository, analytical, and creative writing).

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	Second Semester	Successful completion of English 9 & 10	Anne Malchodi - Medfield

Fine Art:

TEC110 Fine Art Digital Photography

This introductory online course will explore the fundamentals of digital fine art photography, including composition, capture, editing, and output. We will cover the foundations of what it takes to make a high quality creative photographic image with a digital camera. The basic terms and techniques of photography will be explained so that students can get the most out of their subject and camera. We will discuss current digital imaging technology and how that affects the way we take pictures. Students will use online image editing software to edit and manipulate photographs. Students will need regular access to a 6 megapixel (or more) digital point-and-shoot or DSLR camera for this course. Additionally, students will create an online portfolio of their photographs and maintain a reflection blog of their experiences.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	First Semester, Second Semester	None	Sterling Worrell - Hopkinton

TEC111 Art History from the Italian Renaissance to Present

Art History of the Western World (Italian Renaissance to Postmodernism) is an introductory course designed for students interested in exploring the masterpieces of Western civilization. Students will examine an abbreviated history of Western art from the achievements of the Italian Renaissance up to the present day. The artwork of each historical period will consider the social, political and religious contexts in which they were created. By comprehending the importance of great works within their own time frame, students will gain a stronger understanding of their significance today.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	First Semester, Second Semester, Summer	None	Meghan Drew - Medfield

Foreign Language:

TEC201 Spanish for Business (Honors)

Spanish for Business will focus on teaching students how to communicate in typical business situations through listening, speaking, reading and writing. The course would include appropriate etiquette, cultural notes, grammar and conversation. Class experiences will include webquests, wikis, blogs, and by listening to audio recordings of vocabulary sets, simplified grammar rules and conversations. Lessons for each topic would contain conversational situations for specific business. The class would be organized into chapters covering different business themes as well as various cultural aspects and business etiquette of the Spanish speaking countries.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grade 12	Honors	Spring	Successful completion of Spanish 4	Cindy Durrane - Norwood

TEC202 Latin and Greek (Honors)

Latin and Greek is intended for all students interested in developing the skills necessary for reading Latin and Ancient Greek literature. The objective of the course is a thorough understanding of the basic grammatical patterns of Latin and Greek literature, the development of a strong vocabulary base, and an ability to read short stories in Latin and Ancient Greek. The history and mythology of classical Rome and Greece are emphasized. Careful nightly preparation is expected. This course is particularly useful in building the English vocabulary skills needing for success on the SAT by manipulating Latin and Greek roots in high-level English vocabulary. Latin and Greek may also be used to meet the foreign language requirement.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 9-12	Honors	Full Year Course	None	Bruce Mitchell - Hopkinton

Math:

TEC300 Advanced Math Topics

Advanced Math Topics will explore several advanced mathematics topics including polynomial functions, conic sections, exponential and logarithmic functions, trigonometry, analytic geometry, systems of equations, complex numbers, inequalities, absolute value functions, vectors, sequences and series, and polar coordinates. In addition, the student will explore several topics that are traditionally introduced in a typical college level calculus course. These topics include: limits, definition of the derivative, and rate of change (derivatives). This course is ideal for a student who will continue on to a formal calculus sequence in college or take the AP Calculus AB or BC course upon completion of this course.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	College Prep	Full Year Course	Open to any student who has taken a standard Geometry course and has taken or will be taking Algebra II at the same time	Mike Curry - Canton

TEC301 Introduction to Business/Personal Finance

This course is an introduction to essential business skills such as management, understanding consumer needs, and ethical/responsible behavior. Business is also used as a way of illustrating important real world skills such as making decisions, managing processes, critical thinking, and acting as a responsible citizen. The course is hands-on, project based, and utilizes a variety of engaging computer-based simulations that allow students to operate convenience stores, distribution centers, and experience other realistic situations. A significant "life skills" unit teaches financial literacy, setting financial goals, managing your career, understanding credit and debt, and achieving balance between personal and work life.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 9-12	College Prep	First Semester, Second Semester	None	Joe Williams – Hopkinton

TEC303 Algebra Skills

Students will increase their algebraic fluency and increase their mastery of solving linear and quadratic equations and inequalities. Other topics include simplification of expressions with polynomials, exponents, and radicals; factoring; use of linear and quadratic equations as mathematical models; solution of linear systems; analytical geometry of the straight line and parabola; functions.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	Credit Recovery	First Semester, Second Semester	This is a "credit-recovery" type course that will be paced to help students to build their skills in order to be successful in a mainstream course.	Mike Curry - Canton

TEC302 Managing My Money

This course will present an overview of topics related to individual and family money management. In the first semester, students will use Excel or Google Docs spreadsheets on a weekly basis to set up and maintain a personal budget, a checking account and a savings account. They will also learn about consumer loans, using credit cards, and factors involved in the decision to lease or buy an automobile, and they will develop skill in performing cost comparisons and cost-benefit analyses. In the second semester, class members will continue to manage their personal budgets and bank accounts, evaluate the costs of home ownership vs. renting an apartment, and learn how to plan for major expenses such as college and the down payment for a house. They will also study different types of insurance for health, life, automobile, and home, create and manage a portfolio of investments, examine the impact of career choices on reaching financial goals, and learn some of the challenges of helping family members with their finances. It won't be long before you are on your own. How will you handle your finances?

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 9-12	College Prep	Full Year	None	Richard Mobley – Norwood

TEC304 AP Economics - Micro Economics

This course will prepare students to take the AP Micro Economics Exam in May 2011. The course is described as follows by the College Board (www.collegeboard.com): The purpose of an AP course in Microeconomics is to provide a thorough understanding of the principles of economics that apply to the functions of individual decision makers, both consumers and producers, within the larger economic system. It places primary emphasis on the nature and functions of product markets, and includes the study of factor markets and of the role of government in promoting greater efficiency and equity in the economy.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	College Prep	First Semester	Successful completion of Algebra II; strong writing skills	Mike Curry - Canton

TEC305 AP Economics - Macro Economics

This course will prepare students to take the AP Macro Economics Exam in May 2011. The course is described as follows by the College Board (www.collegeboard.com): An AP course in Macroeconomics is designed to give you a thorough understanding of the principles of economics that apply to an economic system as a whole. Such a course places particular emphasis on the study of national income and price determination, and also develops your familiarity with economic performance measures, economic growth, and international economics.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	College Prep	Second Semester	Successful completion of Algebra II; strong writing skills	Mike Curry - Canton

Science:

TEC401 Genetics (Honors)

This course is designed as an introduction to the study of genetics. We will begin with the form and function of DNA and progress to how our genes are expressed and passed down from generation to generation. Biotechnology will be introduced as it applies to the topics covered. Students will investigate how genetics impacts their daily lives. Emphasis will be placed on problem solving, online activities, discussion, projects as well as reading and research. Although we do not have a physical lab at our disposal we will be utilizing a number of available electronic tools in order to replace the laboratory.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	Honors	First Semester, Second Semester	Successful completion of Biology	Lindsey Reichheld – Walpole

TEC402 AP Environmental Science (AP)

This full-year *AP Environmental Science* class is equivalent to an introductory, one semester, college level Environmental Science class. If you have successfully completed both high school level biology and chemistry, if you are interested in the environment and, if you are looking for a challenge, this course might be for you! Because this is a college level course, be ready to commit time to your study. This course will cover concepts in ecology, geology, sociology, biology and chemistry that will further your understanding of Earth and the life on it. Students examine interrelationships with the natural world, identify and analyze environmental problems, both natural and human-made, evaluate risks associated with these problems, and examine alternative solutions for resolving/or preventing them. Integrated in the course is a laboratory component which will improve the students' observational skills, allow them to develop and conduct well-designed experiments, and have them interpret and share their results and conclusions with classmates. Each student will also become involved in a Personal Research Project.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	AP	Full Year	Successful completion of Biology & a lab course in the physical science(s)	Charlotte Shire - Hopkinton

TEC403 Forensic Science

In this course, students will learn how criminal investigators use science to provide information that could establish the guilt or innocence of people suspected of criminal activity. Students will be asked to play the role of forensic scientists. Applying the principles of chemical science, physical science, life science, earth science, archaeology, and anthropology, students will gather, analyze, and interpret evidence, and make interpretations of crime scenarios. Lab activities and web site interactions will be important parts of the course. In order to add realism to the course, students will investigate real-life studies (e.g., video presentations and web site programs). The course has been designed for students that are motivated and are able to work well independently and in small groups. Some of the topics that will be covered include DNA fingerprinting, forensic toxicology, forensic anthropology, forensic informatics, and firearms and ballistic examination. Using various disciplines of science, students will gather, analyze, and interpret evidence, and make interpretations of crime scenarios.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	Second Semester	Successful completion of Biology	James Levasseur – Holliston

TEC404 Marine Biology

People all over the world are fascinated with the beauty and the power of the sea. Are you? If so, this course is for you. This course is designed for any student with an interest in the marine ecosystems. Students will gain knowledge of the ocean ecosystem and an awareness of the importance of protecting that environment. This introduction to the ocean environment will provide a chance to apply some physics, biology, geology and chemistry concepts. Major topics to be covered include the diversity of marine organisms, the ecology of the various sea zones, coastal geology, tides, ocean currents and tectonic activity. Instruction will be a combination of readings, research, and lab activities (both hands-on and online simulations.)

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	College Prep	Second Semester	Successful completion of Biology	Judy Noble

Health and Wellness:

TEC405 Destination Health and Fitness

This course is an exploration into the hot topics in wellness facing high school students today. This semester-long course will focus on developing lifelong healthy living and decision-making skills for the 21st century. Students will explore attitudes, thoughts, beliefs and current trends around topics in personal fitness, nutrition, diabetes, and heart health. Unlike a traditional physical education class, students will keep activity logs and create fitness programs based on their interests. Evaluation of the course will be determined by: online discussion boards, readings and responses, written assignments of current research and data pertaining to these topics, Food Inc video and responses.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	College Prep	Second Semester	Successful completion of Biology	– Dover-Sherborn

Social Studies:

TEC500 The Archaeology of Ancient Greece

How does the culture of ancient Greece reveal itself to us? How do we know so much about a culture that existed almost 2,000 years ago? The Archaeology of Ancient Greece will explore the material remains of ancient Greece, focusing on the primary sources, both literary and physical, that allow us to formulate some understanding of these distant cultures. This course will include historical, literary, and art historical readings and units. The Greece course will begin with the mythology of early Greece, including the Trojan War and its heroes, progress through classical Athens and its development of democracy, and end with the empire of Alexander the Great. Assessments will include, but will not be limited to short quizzes, response journals and creative projects.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 9-12	Honors and College Prep	First Semester	None	Ed DeHoratius – Wayland

TEC501 The Archaeology of Ancient Rome

How does the culture of ancient Rome reveal itself to us? How do we know so much about a culture that existed almost 2000 years ago? The Archaeology of Ancient Rome will focus on primary sources, both literary and physical, that allow us to formulate some understanding of this distant culture. We will begin with Rome's legendary beginnings in Troy and the legend of Romulus and Remus, continue through the Roman Republic and the Roman Civil Wars, focusing on the role of Caesar and the rise of Augustus, and end with the Roman Empire and its legacy. Assessments will include, but will not be limited to short quizzes, response journals and creative projects with the materials.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 9-12	Honors and College Prep	Second Semester	None	Ed DeHoratius – Wayland

TEC502 Modern Global Issues

Modern Global Issues explores the critical themes of the Post-Cold War world, examining trends in Independence, Globalization, the Middle East Crisis and Terrorism. Students will study how technology and globalization have impacted the world in the late 20th and early 21st century. Students will be expected to use on-line resources to research specific themes and create essays, presentations and videos to present to the class. Students will be required to consistently contribute to message board discussions and provide insightful and independent thoughts to instructor directed debates.

COURSE UNITS

Unit 1: Cold War: The End and Its Impact

Unit 2: Globalization: Technology, Communication and the Shrinking World

Unit 3: Independence Movements: The Struggle for Freedom

Unit 4: The Middle East: Crisis and Conflict

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 9-12	College Prep	Second Semester	None	Matt Brenneman – Natick

TEC503 Irish History

This course will explore key periods of Irish history and how those periods impacted the development of Ireland as a nation, including how that history contributed to the creation of Northern Ireland. Students will identify the early influences of the Celtic society, discover the factors contributing to Irish nationalism as well as examine inequities for the Catholic majority in Northern Ireland and identify how this contributed to the civil unrest in the 1960s. The impact of the 1916 Rebellion, the Irish Civil War and the partitioning of Northern Ireland will be investigated. And finally to bring history to the present, the student will compare and contrast the British Army's role in Northern Island with that of the US Army's role in Iraq.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	Second Semester	Completion of US History I and II	Scott O'Connor

TEC504 Women in American Society: A Thematic History of Gender Inequality

Throughout American History, a woman's role in society has been in constant transformation. Women's movements, along with other social reform campaigns, have challenged social norms through democratic activism. In this 18-week course, students will trace the roles of women in American society since the Age of Industrialism. Each unit within the course will focus on re-occurring themes that define the women's pursuit of gender equality. Students will examine both primary and secondary sources in order to recognize how the daily lives of ordinary women paved the path to reform. In addition to the advancements made towards gender equality, each unit will explore gender as it intersects with race, class, ethnicity, and religion. Students are expected to demonstrate advanced academic abilities and an active awareness of social issues.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	Honors	First Semester, Second Semester	Completion of US History I & II	Maryann Ziemba - Millis

Technology:

TEC600 Introduction to Computer Science

The purpose of Introduction to Computer Science is to provide an introduction to the field of computer science. It provides students planning to study computer science a solid foundation in the key concepts they will develop further in college. For others, it gives them the basic tools and knowledge to understand the science and engineering behind today's computer- and information-oriented society. This is not a "programming course"; it is much broader than that. However, students who do not know how to program learn, and those who already know improve their skills.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Open to All (see prerequisite)	Honors	First Semester	Successful completion of Algebra II	Mark Holthouse – Westwood

TEC601 Cybercrime and Security:

Cybercrime and Security is an exploration into the motives of cyber criminals, the means with which they cause harm, and how each user can help prevent himself or herself from becoming the next victim of various forms of cybercrime. Students will explore case studies, learn about preventative techniques and implement safety measures to protect themselves and their families. Topics will include these topics and more: system and data, commercial and home networks, Malware, identity theft, browsing and email, social networking and cyber-bullying, E-commerce and banking, peer to peer networks and piracy, mobile devices, and ethics and legal issues.

Open to:	Level:	Course Duration:	Prerequisite:	Instructor:
Grades 11 & 12	College Prep	First Semester, Second Semester	None	Doug Scott – Natick