North Carolina School of Science and Mathematics

Distance Education Courses
2013-2014 Catalog

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Welcome from the Dean

Dear principal, counselor, or IVC facilitator,

Greetings from Durham, North Carolina, where we’re busy preparing for the 2013-2014 school year.

A key part of our mission at the North Carolina School of Science and Mathematics is to provide high-quality, tuition-free high school courses to North Carolina high schools. This year, we’ve served over 500 students in 27 LEAs with interactive video conference courses, and an additional 180 students enrolled in our NCSSM Online program.

If you’ve worked with us before, we look forward to serving your school again in 2013-2014. If your school has not yet participated in NCSSM’s distance education courses, we hope our programs will position your school to offer coursework that isn’t otherwise available, alleviate resource and scheduling difficulties, or build capacity in the areas of mathematics, science, engineering, and Advanced Placement.

This catalog lists all of the courses available to NC public school students through two programs: Interactive Video Conference (IVC), and NCSSM Online. IVC courses are available to any student in any NC public high school who meets the course prerequisites. NCSSM Online courses require students to apply for admission to our program. However, both programs can be used to supplement the offerings at your school for students who seek advanced opportunities in mathematics, science, and some humanities courses.

Returning sites may be pleased to see some of the following changes to our programs:

- Access to more courses for advanced learners in 9-10th grades who have completed the appropriate prerequisite courses.
- Access to IVC courses for NCSSM Online Students.
- New IVC courses in AP Art History and Aerospace Engineering.
- Mentoring programs that allow teachers in your school to build content-area capacity while they serve as facilitators in IVC courses.

Please share these tuition-free offerings widely within your school community. I also invite your feedback on any aspect of our program. I can be reached at rosswhite@ncssm.edu or (919) 416-2833.

Sincerely,

Ross White, Dean of Distance Education & Extended Programs
**About NCSSM**

The North Carolina School of Science and Mathematics (NCSSM) has been a global leader in STEM education for more than 30 years. The school has a mission to serve as a public residential high school educating academically talented North Carolinians to become state, national and global leaders in science, technology, engineering and mathematics; to advance public education in North Carolina; and to inspire innovation for the betterment of humankind.

Since opening its doors in 1980 as the first public residential school with a focus on STEM, NCSSM has become a model for dozens of other schools across the country and globe and is a founding member of the National Consortium for Specialized Secondary Schools of Mathematics, Science, and Technology.

In 2007, NCSSM also became the first high school to become a constituent institution of the University of North Carolina.

**NCSSM Distance Education Administration**

Dr. Todd Roberts  
NCSSM Chancellor

Melissa Thibault  
Vice Chancellor for Distance Education & Extended Programs

Ross White  
Dean of Distance Education & Extended Programs

Chris Thomas  
NCSSM Online Coordinator

Jamie Lathan  
NCSSM IVC Coordinator
About NCSSM Distance Education

NCSSM began offering distance education courses via the Information Highway in 1994. Since that time, over 10,000 students have participated in video courses for high school credit—many of them in Advanced Placement. While the program initially served rural schools, it has expanded to include all North Carolina schools. As video has become cheaper and broadband access to schools has increased, the program has grown, with new courses being added regularly.

NCSSM Online welcomed its first cohort, the class of 2010, in 2008. This program, which includes weekly synchronous sessions, on-campus summer symposium courses, and residential weekends throughout the school year, welcomes students to the NCSSM experience without requiring that they leave their home communities. Students are provided textbooks and college counseling, and they are eligible to participate in some NCSSM extracurricular activities, even attending prom at NCSSM.

Students participating in NCSSM Distance Education courses routinely advance to the most prestigious colleges and universities in the country, including UNC-Chapel Hill, NC State University, Duke University, California Institute of Technology, Johns Hopkins University, the United States Air Force Academy, and others. Participants have received numerous scholarships, including the Morehead-Cain Scholarship and the Park Scholarship.

These programs remain tuition-free to all students.

About Two-Course Sequences

To comply with state public school guidelines, only one AP-level credit can be issued per course, even if the course is offered over a full year. NCSSM offers a number of two-course sequences, which culminate in an AP course. Fall courses should be assigned honors credit, while spring courses should be assigned AP credit. Completion and passing of the fall honors course is a prerequisite to admittance into the spring AP course.
Interactive Video Conference (IVC) Courses

About IVC

The North Carolina School of Science and Mathematics (NCSSM) is the premier provider of interactive videoconference (IVC) courses for K-12 schools across North Carolina. Courses are provided tuition-free to schools across the state, providing students with the opportunity to take advanced coursework in a technology-rich environment.

With two-way videoconferencing, students from schools across the state can collaborate in project teams and whole-class discussions, developing the skills required by business and industry. NCSSM IVC teachers monitor the class in real time, assessing student learning and ensuring that students engage with the course materials and with each other.

NCSSM IVC provides a flexible, cost-effective solution for schools looking to:

- Offer courses in hard-to-staff subject areas
- Support STEM goals
- Offer advanced coursework to smaller groups of students

Quick Facts

- NCSSM has offered tuition-free IVC courses to North Carolina schools since 1994.
- All NCSSM instructors have an advanced degree in their subject area.
- NCSSM operates four IVC studios and one mobile high-definition unit.
- Over 500 students enroll in NCSSM IVC courses annually.
- 20% of all North Carolina LEAs utilize NCSSM IVC courses.
- NCSSM IVC courses have course codes in NC WISE.
- Courses are offered in 90-minute blocks throughout the school day. NCSSM accommodates multiple school calendars.
- Schools enroll the students. There is no student application to NCSSM for IVC courses.
- Classes are capped at 25 students. Enrollment is on a first-come, first-served basis.

About Interactive Videoconferencing

- Two-way videoconferencing allows students to see and hear the instructor and the other class participants, wherever they are in the world, in real time.
- Once confined to expensive video classrooms, students can now participate in IVC courses if they have a computer, webcam, and software that costs less than $200.
Schools can set up basic IVC classrooms by adding a USB microphone, external speakers, and a flat-panel monitor or LCD projector. Individual students can now participate with an iPad using a free app from Polycom.

**Resources Needed**

- Schools provide textbooks, classroom space, and a computer for each student to use during class.
- Schools identify an adult facilitator who proctors exams, supervises the students while they’re in the classroom, and serves as a conduit for communication between NCSSM and the school.
- Schools enter attendance and grades provided by NCSSM into NCWISE.
How to Enroll

Read the descriptions of the 2013-2014 courses listed in this catalog. Select the courses your school would like to offer to your students.

Include the descriptions of these selected courses in your school course registration materials to provide your students to view all course choices.

In February, NCSSM course registration forms for Fall Semester and Spring Semester 2013-2014 will be posted on the NCSSM website (www.ncssm.edu/learn). Complete the registration forms; include the following information:

- Provide the contact information for the Interactive Video Conference facilitator and a counselor. (Indicate when the counselor is available during the summer to consult on enrollment.)
- Identify each course the students have requested.
- Indicate the time that best fits your school schedule among the choices provided for class start time.
- Indicate the number of students requesting the class. The maximum number that each school may register in an individual course is eight; schools may register up to eight students for as many courses as needed. As openings become available through the summer, schools that have created waitlists may receive additional seats.
- By April 30th submit the Registration Forms, the 2013-2014 school calendar and bell schedule to coleman@ncssm.edu.

In May the registration forms are reviewed by NCSSM. Course start times are chosen that satisfy the greatest number of requests. Course times are communicated to the schools.

For each student requesting an NCSSM IVC course a Student Registration Form must be provided to coleman@ncssm.edu by May 25th. The Student Registration Form includes standardized tests scores (SAT, PSAT, ACT, and or EOC) and the signature of a teacher who has worked with the student recommending enrollment. High achievers have the best chance for success in distance learning.

All registration materials are posted at www.ncssm.edu/learn.
Technical Requirements

Once an expensive initiative, Interactive Video Conferencing is now very affordable for schools. Recent developments in laptop-based and mobile device-based clients have created new opportunities for students to participate in NCSSM interactive video conference courses.

IVC courses require broadband internet, and:

- Existing videoconference equipment in the school, such as Tandberg or Polycom units. If your school has participated in interactive video courses with NCSSM or over the Information Highway, this equipment is likely already in place.

  —or—

- A classroom equipped with a computer projector, webcam, speakers, and desktop conference microphone can be converted into a video conference classroom with affordable software available from MCNC. (See https://www.mcnc.org/services/video-soft-client-movi.html for more information.)

  —or—

- In cases where a full classroom is not available, individual students may participate by laptop (webcam and headset required; schools must purchase software from MCNC) or iPad (via free Polycom app). If individual students are participating, remember that they will need space where they can talk freely, as courses are truly interactive.

NCSSM offers schools support in connecting their video conference classrooms, such as:

- live testing (upon request)
- troubleshooting assistance
- guidance for IT personnel
The Facilitator

Key to the success of the Interactive Video Conference experience is the facilitator—an adult at the school site who works with the students and the NCSSM instructor to ensure a positive learning environment.

Expectations for facilitators include:

- Maintaining a safe, productive environment for students in the Interactive Video Conference classroom.
- Performing some classroom management functions, including entering student attendance into NC WISE.
- Administering and proctoring tests and quizzes designed by the NCSSM instructor.
- Troubleshooting minor technical issues, such as muted volume, unplugged cables, or pointing and zooming the camera.
- Communicating with the NCSSM instructor about school closures, schedule changes, or classroom issues that affect student learning.
- Receiving grades from the NCSSM instructor.
- Communicating with parents, school counselors, and school administration about student performance.

The facilitator is not required to be a subject-area teacher, though many schools have subject-area teachers participate as facilitators in order to build content knowledge, pedagogical knowledge, and/or capacity to offer the IVC course as a face-to-face course in the future. NCSSM often provides teacher mentoring for subject-area teachers who serve as IVC facilitators. For more information on IVC mentoring relationships, contact Ross White at rosswhite@ncssm.edu.
2013-2014 Schedule

The courses listed below will be offered in 2013-2014. ** Indicates a two-course sequence. In each block, sample start times are indicated. The precise time each class will start in a block will be determined by the best fit for the majority of schools requesting the course. NCSSM will determine exact course broadcast times upon review of the course registration forms. Actual interactive broadcast time may be shorter than 90 minutes, with individual work assigned for the remainder of the block.

Fall 2013

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<td>Honors Forensic Science</td>
<td>Honors Forensic Science</td>
<td>Honors Calculus AB**</td>
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<td>Honors Aerospace and Engineering</td>
<td>Honors Statistics**</td>
<td>Honors Forensic Science</td>
<td>Honors African American Studies</td>
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<td>Advanced Environmental Science**</td>
<td>Honors Pre-Calculus Algebra**</td>
<td>Honors Genetics and Biotechnology</td>
<td>Advanced Topics in Art History**</td>
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- **Honors Forensic Science**
- **Honors Forensic Science**
- **AP Calculus AB**
- **Honors Physics**

- **Honors Forensic Science: Anthropology**
- **AP Statistics**
- **Honors Aerospace Engineering**
- **Honors Forensic Science**

- **AP Environmental Science**
- **Honors Genetics and Biotechnology**
- **AP Art History**

- **Honors Pre-Calculus: Trigonometry**

Course Offerings

SCIENCE

Honors Aerospace Engineering
In this course, students design problems related to aerospace information systems, astronautics, rocketry, propulsion, the physics of space science, space life sciences, the biology of space science, principles of aeronautics, structures and materials, and systems engineering. Using 3-D design software, students work in teams utilizing hands-on activities, projects, and problems and are exposed to various situations encountered by aerospace engineers.

Prerequisites
Completion of Biology I and completion of Algebra II

Grade Level: 10-12

Consumables Fees: A $25 per student consumable materials fee will be invoiced at the start of the semester. For inquiries regarding invoices, please contact Crystal Davis at NCSSM. phone: 919-416-2640 fax: 919-416-2650 davisc@ncssm.edu

Materials: Some equipment on loan from NCSSM; schools are responsible for materials. A list of additional needed materials will be provided. Some free software must be downloaded and installed on all student machines.

Site requirements: Students must have computer access to the Internet in the classroom. Facilitator assistance will be required to set up labs.

Recommended weight: Honors
Honors Forensic Science
(Fall & Spring semesters) NC Wise Course Code 30805
This course focuses on the application of basic biological, chemical and physical science principles and technological practices to the purposes of justice in the study of forensic science as it relates to judicial and civil issues. The class is designed around authentic performance assessments with students working in teams to solve crimes using scientific knowledge and reasoning. Through lab work, students will apply inference and deductive reasoning to the investigation and potential solving of crimes. It involves all areas of science including biology, anatomy, chemistry, physics, and earth science with an emphasis in complex reasoning and critical thinking. In addition, students must incorporate the use of technology, communication skills, language arts, art, family and consumer science, mathematics and social studies.

This course requires the ability to write clear and concise lab and investigative reports. Good writing skills are imperative.

Prerequisites
Completion of Biology I and completion of Algebra II

Grade Level: 9-12

Consumables Fees: A $25 per student consumable materials fee will be invoiced at the start of the semester. For inquiries regarding invoices, please contact Crystal Davis at NCSSM. phone: 919-416-2640 fax: 919-416-2650 davisc@ncssm.edu

Textbook: must be provided by the school

Forensic Science: The Basics, by Jay A Siegel
Published by CRC Press 2006: ISBN-10: 0849346312
Published by Taylor & Francis, Inc.: 2010 ISBN: 1420089021
(If you are purchasing a new book please buy the 2010 edition)

Materials: Some equipment will be provided on loan from NCSSM; schools are responsible for materials. A list of additional needed materials will be provided. Each student must have a graphing calculator (TI-83 or TI-84) that they may take home.

Site requirements: Students must have computer access to the Internet in the classroom. Facilitator assistance will be required to set up labs.

Recommended weight: Honors
**Honors Forensic Science: Anthropology**

*(Spring Semester) NC Wise Course Code 30805*

This upper level science course provides a broad overview of forensic anthropology – an applied field of biological anthropology that seeks to recover, identify, and evaluate human skeletal remains within a medico-legal context. In this course, students will learn to identify the bones of the human skeleton, as well as basic recovery techniques and crime scene investigation. We will then apply this knowledge towards the techniques used by forensic anthropologists to determine sex, age at death, ancestry, and stature; and how to estimate time since death and identification of trauma to bone. Finally, students will explore the role forensic anthropologists play in mass disaster and human rights investigations, as well as the associated ethical responsibilities that come with working with human skeletal remains.

This course requires the ability to write clear and concise lab and investigative reports. Good writing skills are imperative.

**Prerequisites**
Completion of Biology I and completion of Algebra II. Student must demonstrate maturity in other classes be highly motivated and have a strong background in science.

**Grade Level:** 9-12

**Consumables Fees:** A $25 per student consumable materials fee will be invoiced at the start of the semester. For inquiries regarding invoices, please contact Crystal Davis at NCSSM. phone: 919-416-2640 fax: 919-416-2650 davisc@ncssm.edu

**Textbook:** must be provided by the school

*Introduction to Forensic Anthropology, by Steven N. Byers*
Pearson Publishing
4th edition
ISBN: 97802057900128

**Site requirements:** Students must have computer access to the Internet in the classroom. Facilitator assistance will be required to set up labs.

**Materials:** Links to articles and academic journals supplied by NCSSM. Some equipment will be provided on loan from NCSSM; schools are responsible for materials. A list of additional needed materials will be provided. Each student must have a graphing calculator (TI-83 or TI-84) that they may take home.

**Recommended weight:** Honors
Honors Genetics and Biotechnology
(Fall & Spring semesters) NC Wise Course Code 30295
What do crime scene investigations, agriculture, medicine, conservation biology and manufacturing have in common? They have all been revolutionized by biotechnology! Almost every day we read about new developments in the rapidly changing fields of genetics and DNA-based biotechnology. In this course, students will first explore classical genetics and then move onto examining the structure and function of DNA and proteins. With state-of-the-art laboratory experiments, students will analyze DNA fingerprints from a crime scene, genetically transform bacteria and investigate their own DNA! Finally, they will survey the applications of biotechnology in many diverse fields and discuss in depth how biotechnology is changing our daily lives and our future. With the decline of traditional manufacturing in North Carolina, biotechnology is positioned to become a vital part of North Carolina’s 21st century economy.

Prerequisites
Completion of Biology I with a B or higher and completion of Algebra II

Grade Level: 9-12

Materials requirements: A $25 per student consumable materials fee will be invoiced at the start of the semester. For inquiries regarding invoices, please contact Crystal Davis at NCSSM. phone: 919-416-2640 fax: 919-416-2650 davisc@ncssm.edu

Textbook: must be provided by the school

Essential Genetics: A Genomics Perspective by Daniel L. Hartl
Jones and Bartlett Press
4th or 5th edition

Site requirements: Students must have computer access to the Internet in the classroom. Facilitator assistance will be required to set up labs.

Recommended weight: Honors
Honors Physics
(Fall & Spring semesters) NC Wise Course Code 30605
This course is a hands-on, inquiry based introductory course which combines both “conceptual” and “mathematical” approaches to learning physics. The course covers the laws of mechanics and their applications. Students will learn to solve real problems by investigating real systems. Investigations will cover physics topics that are fun and engaging for the students. Students will design experiments, use accurate measuring equipment and construct and test conclusions based on accurate data.

Prerequisite
Completion of Algebra II with a C or higher

Grade Level: 11-12

Materials: A $25 per student consumable materials fee will be invoiced at the start of the semester. For inquiries regarding invoices, please contact Crystal Davis at NCSSM.
phone: 919-416-2640 fax: 919-416-2650 davisc@ncssm.edu

Each student must have a graphing calculator (TI-83, TI-84 or TI-89) that they may take home.

Textbook: must be provided by the school

Conceptual Physics, by Paul G. Hewitt
Prentice Hall

Site Requirements: Students must have computer access to Internet in classroom

Recommended weight: Honors
AP Environmental Science / Advanced Environmental Science (two-course sequence)

Advanced Environmental Science
(fall) NC WISE Course Code 30805
This course is designed to survey key scientific information and policy issues in environmental science in order to prepare students for the Advanced Placement examination and good citizenship. During the first semester of the course we will study natural Earth processes in order to understand how these processes have grown interdependent over millennia to form life-sustaining Earth systems.

Prerequisite
Two semesters of a laboratory science (earth science, biology or chemistry)

Grade Level: 11-12

Textbook: TBD

Site requirements: Students must have computer access to Internet in classroom

Recommended weight: Honors

AP Environmental Science - NC WISE Course Code 30427
The second half of the two course sequence continues to develop the student’s understanding of these concepts. In the second semester of the course, we will evaluate the effect of human activity on the Earth’s natural processes in order to consider how economic development, policy and human activity can be practiced in a sustainable manner.

Prerequisite
Successful completion of Advanced Environmental Science

Grade Level: 11-12

Textbook: TBD

Site requirements: Students must have computer access to Internet in classroom

Recommended weight: AP
MATHEMATICS

Honors Calculus/AP Calculus AB Course (two-course sequence)

Honors Calculus
(fall) NC Wise Course Code 20735
This course is rich in technology and applications, and prepares students for the AP Calculus AB Exam. AP Calculus develops the student’s understanding of the concepts of calculus (functions, graphs, limits, derivatives) and provides experience with methods and applications. The course encourages the geometric, numerical, analytical, and verbal expression of concepts, results, and problems.

Prerequisite
Completion of Precalculus with an “A” and the recommendation of the math teacher. Students should have a strong background in algebra and functions, including polynomial, exponential, logarithmic, and trigonometric. Students should also have knowledge of basic graphing calculator functions... graphing an equation, determining a Window, use of the built-in Intersect, Zero, & Value functions. A summer assignment will be sent to enrolled students. The completion of the summer assignment is mandatory. Schools will be asked to supply the following student information: PSAT scores- both Verbal and Mathematical, EOC Algebra II (raw or adjusted score), Algebra II teacher recommendation and ACT scores.

Grade Level: 11-12

Material requirements: Each student must have a graphing calculator (TI Inspire, TI-89 preferred, TI-83+, TI-84 acceptable) that they may take home.

Textbook: must be provided by the school

Calculus, Early Transcendentals: Single Variable, By Howard Anton, Irl Bivens, and Stephen Davis
Publisher: John Wiley and Sons, Inc., 2012
10th Edition
ISBN. 978-0-470-64768-4

Site requirements: Students must have computer access to the Internet in the classroom.

Recommended weight: Honors
AP Calculus AB  
(spring) NC Wise Course Code AP 20767  
The second half of the two course sequence AP Calculus continues to develop the student's understanding of these concepts of calculus (functions, graphs, and integrals) and provides experience with methods and applications. The course continues to encourage the geometric, numerical, analytical, and verbal expression of concepts, results, and problems.

**Prerequisite:** Successful completion of Honors Calculus. Schools will be asked to supply the following student information: PSAT scores - both Verbal and Mathematical, EOC Algebra II (raw or adjusted score), Algebra II teacher recommendation and ACT scores.

**Grade Level:** 11-12

**Material requirements:** See requirements for Honors Calculus

**Textbook:** *must be provided by the school*

*Calculus, Early Transcendentals: Single Variable, By Howard Anton, Irl Bivens, and Stephen Davis*

Publisher: John Wiley and Sons, Inc., 2012  
10th Edition  
ISBN. 978-0-470-64768-4

**Site requirements:** Students must have computer access to the Internet in the classroom.

**Recommended weight:** AP
Honors Precalculus Algebra/ Honors Precalculus Trigonometry (two-course sequence)

Honors Precalculus Algebra
(fall) NC Wise Course Code 20705
In conjunction with the Honors Precalculus Trigonometry, this course is designed to provide skill development in order to prepare students for the NCSSM Distance Education year-long Honors Calculus/AP Calculus course sequence. Precalculus topics include: functions (power, polynomial, rational, radical, exponential and logarithmic) and their transformations, data analysis as it applies to functions, iteration, sequences and series and parametric equations. A heavy emphasis will be placed on problem solving.

Prerequisite
Completion of Honors Algebra II (a 4 on the EOC) with a grade of “A”, and a recommendation by the Algebra II teacher.

Grade Level: 11-12

Material requirements: Students must have a graphing calculator (TI Nspire, TI-89 preferred, TI-83+, TI-84 acceptable) that they may take home. Textbooks on loan from NCSSM.

Site requirements: Students must have computer access to the Internet in the classroom.

Recommended weight: Honors

Honors Precalculus Trigonometry
(spring) NC Wise Course Code 20415
In conjunction with the Honors Precalculus Algebra this course is designed to provide skill development in order to prepare students for the NCSSM Distance Education year-long Honors Calculus/AP Calculus course sequence. Precalculus topics include: the six trigonometric functions and their inverses, transformations, sinusoids, equation solving, identities, solving triangles, both right and oblique, polar graphs and parametric equations. A heavy emphasis will be placed on problem solving.

Prerequisite
Successful completion of Honors Precalculus Algebra

Grade Level: 11-12

Material requirements: See Honors Precalculus Algebra.

Site requirements: Students must have computer access to the Internet in the classroom.
Recommended weight: Honors

Honors Statistics/AP Statistics (two-course sequence)

Honors Statistics
(fall) NC Wise Course Code Honors 20655
This first part of a year-long course covers the content of a typical introductory college course in statistics. In colleges and universities, the number of students who take a statistics course is almost as large as the number of students who take a calculus course. (At least one statistics course is typically required for majors such as engineering, psychology, sociology, health science, mathematics, and business.) The first semester will provide an overview and introduction to statistics, and introduce students to the major concepts and the tools for collecting, analyzing, and drawing conclusions from data. The completion of the summer assignment is mandatory.

Prerequisite: Students must have completed a course beyond Algebra II with a B average or better and have strong algebra skills. They must also possess strong verbal skills as well as sufficient mathematical maturity and quantitative reasoning ability. A summer assignment will be sent to enrolled students. The completion of the summer assignment is mandatory. Schools will be asked to supply the following student information: PSAT scores - both Verbal and Mathematical, EOC Algebra II (raw or adjusted score), Algebra II teacher recommendation and ACT scores.

Grade Level: 11-12

Material requirements: Each student must have a TI-83+ or TI-84 (preferred) graphing calculator that they may take home.

Textbooks: must be provided by the school

The Practice of Statistics Third Edition (2008), by Daren S. Starnes, The Lawrenceville School; Dan Yates, Statistics Consultant; David S. Moore, Purdue University
published by Bedford Freeman and Worth,
ISBN-10: 0-7167-7309-0

*Barron’s AP Statistics, 6th Edition
ISBN-10: 0764147021

Site requirements: Students must have computer access to the Internet in the classroom.

Recommended weight: Honors
AP Statistics
(spring) NC Wise Course Code AP 20667
The second semester covers the methods of inferential statistics (hypothesis testing and confidence intervals). The semester’s work includes ongoing review of the first semester topics and preparation for the AP exam.

Prerequisite: Successful completion of Honors Statistics. Schools will be asked to supply the following student information: PSAT scores - both Verbal and Mathematical, EOC Algebra II (raw or adjusted score), Algebra II teacher recommendation and ACT scores.

Grade Level: 11-12

Material requirements: See Honors Statistics.

Textbooks: See Honors Statistics.

Site requirements: Students must have computer access to the Internet in the classroom.

Recommended weight: AP
HUMANITIES

Honors African American Studies
(Spring semester only) NC Wise Course Code 40115
This interdisciplinary course provides an introduction to African American history, literature, and culture. Students examine significant social, political, economic, and religious issues as well as issues of identity in the lives of African Americans from the sixteenth century to the present. In addition to readings in historical backgrounds and documents, students explore texts ranging from slave narratives, folktales, and spirituals to the works of writers, artists, and musicians during the Harlem Renaissance to contemporary works by such writers as Alice Walker and Henry Lewis Gates and filmmaker Spike Lee. Through a variety of assignments and activities, students continue to develop their skills in reading, speaking, and research, with special emphasis on the writing process.

Prerequisites
None

Grade Level: 10-12

Textbooks: must be provided by the school

From Slavery to Freedom, by John Hope Franklin and Alfred A. Moss, Jr.
8th edition
ISBN: 9780375406713

Site requirements: Students must have computer access to the Internet in the classroom.

Recommended weight: Honors
AP Art History / Advanced Topics in Art History (two-course sequence)

Advanced Topics in Art History
(fall) NC Wise Course Code TBD
Students examine and critically analyze the production, meaning, and relevance of multiple mediums of visual art—painting, drawing, and other two-dimensional art, as well as sculpture, architecture, and material culture—from a variety of European and non-European cultures. The course emphasizes a chronological overview of major eras and movements (e.g., Greek and Roman, Early Christian, Gothic, the Renaissance, the Baroque, Neo-classicism, Romanticism, Impressionism, and Modernism), and places works of art in their cultural, societal, political, and historical contexts. In addition, students explore the reciprocal influences of music, literature, and popular culture on visual art as a means to better contextualize these movements.

Prerequisites
Tenth-grade students must have completed English I with a grade of “A.” Eleventh- and twelfth-grade must have completed all their high school English courses with no grade lower than a “B.”

Grade Level: 10-12

Textbooks and Additional Materials: Textbooks and materials will be selected by February 1, 2013, and must be provided by the school.

Recommended weight: Honors

Site requirements: Students must have computer access to the Internet in the classroom.
AP Art History  
(spring) NC Wise Course Code TBD

Designed to help students prepare for the AP Art History Exam, this course provides a chronological survey of art from ancient Mesopotamia to the world of Post-Postmodernism. Students examine and critically analyze the production, meaning, and relevance of multiple mediums of visual art—painting, drawing, and other two-dimensional art, as well as sculpture, architecture, and material culture—from a variety of European and non-European cultures. The course continues the chronological overview of major eras and movements, and places works of art in their cultural, societal, political, and historical contexts. In addition, students explore the reciprocal influences of music, literature, and popular culture on visual art as a means to better contextualize these movements. Students examine advertising, film, and other visual media as further context for the movements.

The structure and expectations of the course are similar to those of an introductory college survey of art history. The course is discussion-based, with an emphasis on developing students' visual literacy, critical thinking, contextual analysis skills, and writing.

While the course follows the AP guidelines for content, the IVC format allows for a variety of class modalities that include virtual field trips to museums such as the North Carolina Museum of Art, the Nasher Museum of Art at Duke University, the Ackland Art Museum at the University of North Carolina at Chapel Hill, and possibly, the Louvre and Musée d'Orsay.

**Prerequisites**  
Successful completion of Advanced Topics in Art History.

**Grade Level:** 10-12

**Textbooks and Additional Materials:** Textbooks and materials will be selected by February 1, 2013, and must be provided by the school.

**Recommended weight:** AP

**Site requirements:** Students must have computer access to the Internet in the classroom.
Online Courses: NCSSM Online

What is NCSSM Online?
NCSSM Online is a unique, tuition-free two-year program of online learning blended with a host of real-time connections and onsite NCSSM residential activities. NCSSM Online offers a host of rigorous online honors or college level courses parallel to those offered in the NCSSM residential academic program. A unique feature of this two-year program is its design to bring students together for onsite collaborative learning experiences - a vital component of the total NCSSM experience.

The NCSSM Online program is available to the same highly qualified applicants who apply to the NCSSM residential school program. It is designed to expand the NCSSM academic experience beyond the boundaries of the Durham campus to more North Carolina high school students in a virtual environment. This program supplements continued enrollment at a local school, and also will provide for a separate NCSSM transcript for the curriculum taken in the NCSSM Online program.

Note: Enrollment in NCSSM Online courses requires the student to apply and meet all acceptance criteria for NCSSM. While students remain enrolled in their public schools, counselors should not enroll them in online courses for credit at the public school until after they have been accepted into the NCSSM Online Program.
How it Works

Notation and Credit
Students receive a NCSSM transcript that certifies their work at NCSSM Online, along with an NCSSM GPA. Students can request copies of their NCSSM transcripts be sent separately with any college admission application. Additionally, if needed the NCSSM Online counselor is available to assist students with the college selection and application process.

Additionally, courses can be added (with a schools permission) to a student’s local school transcript for graduation credit, using the statewide student registration system NC WISE. However, these courses can only receive honors or AP notation on a local school transcript.

Students who have taken NCSSM Interactive Video Conference courses at their public schools may request to have the IVC course included on their NCSSM transcript.

Academic Components
NCSSM Online brings students together in a virtual environment; therefore NCSSM Online’s courses do not follow a daily schedule like normal high school courses. Junior students take one class per semester. Seniors may be able to take more than one class if their local school supports/has facilities for the student to complete the coursework during the school day.

How our Courses Work
NCSSM Instructors make themselves available to students at a variety of times during the school day. Each instructor schedules an online web-video conference once a week (in the evening) to allow the entire class to work collaboratively. They are able to communicate with their teachers through various features of NCSSM Online’s course management program, as well as through instant message, e-mails, and by phone.

All courses are taught by faculty from NCSSM. Faculty hold a minimum of a master's degree in their field of study; many also hold doctorates. Students meet their teachers when they visit NCSSM’s residential campus for the NCSSM Online Orientation Weekend, and during the required on-campus visits each semester.

How our Face-to-Face Components Work
A mandatory multi-day NCSSM Orientation Weekend is scheduled on the Durham NCSSM
campus in **June or July** (tentative dates will be between June 20-23 in 2013). In addition, NCSSM Online students are required to come to the NCSSM campus on one or two NCSSM Online and On-campus weekends as part of their course. These Saturdays provide additional opportunities for students to network with their teachers and fellow NCSSM Online students and complete laboratory or collaborative activities.

Rising seniors (and, space permitting, rising juniors) have the opportunity to register for the weeklong summer student symposium at the NCSSM campus. Modeled after the NCSSM academic program’s opportunities for extra-curricular studies, such as mini-term and independent study options, the summer student symposium brings students together for an intensive look at a topic of interest.
NCSSM Online Admissions

Who should apply?
NCSSM is looking for high-potential students that want to link together with top students around the state and immerse themselves in academic opportunities unavailable at most local schools.

- Sophomore standing at time of application.
- North Carolina residency (the program is open to students enrolled in public, private, or home high schools)
- A reliable computer that meets the program computer requirements
- Regular access to a reliable high speed internet connection
- Parent/Guardian or responsible party that can transport and drop student off at NCSSM campus for residential components. Online program students can bring a vehicle with advance written permission.

What is the Process?
The NCSSM admissions process evaluates the following criteria through multiple application components.

- Student application essay questions
- 9th and 10th grade academic performance
- Rigor of 9th and 10th grade courses
- Sophomore SAT score performance relative to your home county or high school
- Evaluation from a science, English, and math instructor
- Evaluation from a current school counselor.

No campus visit is required during the admissions process for applicants that apply only to the NCSSM Online program.

To apply, visit: https://apply.ncssm.edu/

NCSSM’s Two Programs
NCSSM has two application-based programs:

- The NCSSM Residential program allows students to live on our campus in Durham their junior and senior year of high school and receive a NCSSM diploma
- The NCSSM Online program allows students to stay at their local high school, take 4 to 6 NCSSM courses their junior and senior year, and receive a NCSSM transcript.

Students will be asked which program they are applying to when they start the online NCSSM admissions application.
MATHEMATICS

Applied Finite Math- MA366 (fall)
Applied Finite Mathematics offers students an overview of a number of applications of mathematics, especially in the social and management sciences. Applications and modeling are central to this course of study. Topics covered include fair division of resources and costs, voting methods, apportionment of legislative bodies, power of voting coalitions, graph theory and networks and recursive systems. The course will also extend students’ knowledge of matrices and their use in applications, as well as probability and univariate data analysis. Students are expected to be involved in formulating and modeling problems, applying the appropriate mathematics to find solutions, and evaluating those solutions. Computers and calculators are incorporated as computational modeling aids. Activities in this course include lectures, periodic synchronous class meetings using Elluminate, discussions, projects, group activities and assessments. It is important that students fully participate and complete assignments to keep pace with the class.

Weekly Webinar
Wednesday at 5:00pm

Prerequisites or Suggested Skills
The prerequisite for this course is completion of Algebra II Honors with a grade of B or higher.
AP Calculus AB- MA416 and AP Calculus BC- MA426 (two-course sequence)

This demanding and challenging course covers the study and application of differentiation and integration, and graphical analysis including limits, asymptotes, and continuity. Students will cover functions, limits, derivatives and their applications, transcendental functions and special integration methods and their applications. During the semester, students will use multiple representations, such as graphical, numerical, analytic, and verbal to foster a more complex understanding of calculus. Technology will be used to reinforce the relationships among the multiple representations of functions for confirming written work, facilitating experimentation, and assisting with interpretation of results. Students will work independently, attend weekly group sessions using web conferencing, and engage in group activities on campus. Evaluations will consist of online quizzes, special problems (POD’s), proctored tests and quizzes, investigations and projects, and a final exam. AP Calculus AB will prepare students for one of the two calculus Advanced Placement exams offered by the College Board in May. It will also prepare students for Calculus BC, which is an extension of Calculus AB.

Weekly Webinar
Wednesday at 8:30pm

Prerequisites of Suggested Skills
- “A” in honors-level Algebra 2, Trigonometry, and Pre-Calculus
- The ability to be an independent learner in a high-level mathematics course.
- Reliable home access to internet and e-mail.
- Regular and reliable access to fax or scanner, including ability to PDF documents.
- Possession and knowledge of using the TI-83/ TI-83 Plus, TI-84/TI-84 Plus, TI-89, or TI-Nspire calculators.
Applications of Calculus/Vector Functions- MA484 (fall)
This course will give students the opportunity to apply knowledge to a variety of real-world problems and introduce students to vector-valued functions. Some of the applications involve finding the extreme values of a function and solving differential equations, both numerically and analytically. These modeling problems include the spread of infectious diseases, combat models, and world oil production. Students will explore various methods of solving open-ended problems using technology. They will also have the opportunity to work with other students in the course to produce reports to share their results. Vector calculus topics will include basic operations with vectors and parametric curves in 2- and 3-space, the Frenet Frame, curvature and torsion.

Weekly Webinar
Tuesday at 8:30pm

Prerequisites or Suggested Skills
Students must have successfully completed AP Calculus BC and earned a score of 4 or 5 on the AP Calculus BC Exam.

Partial Derivatives, Multiple Integrals & Vector Fields (Multivariable Calculus)-MA486 (spring)
Students will continue their study of multivariable calculus including classic optimization problems, directional derivatives, the gradient, limits, continuity, and differentiability of functions of two variables, multiple integrals, the Jacobian and change of variables, vector fields, line and surface integrals, divergence and curl. Significant time is devoted to the study of Green’s Theorem, Stokes’ Theorem and the Divergence Theorem. Students will be expected to use formal mathematical proof and to work on extended problem sets.

Weekly Webinar
Tuesday at 8:30pm

Prerequisites or Suggested Skill
The prerequisite for this course is successful completion of Applications of Calculus/Vector Functions.
COMPUTATIONAL SCIENCE

The NCSSM Online program offers one specialized sequence or "track" of courses, designed to prepare students to work in a high performance computing research environment or research lab with a strong computational focus. This sequence is in the computational sciences, also known as "modeling and simulation" or "scientific computing." All four of these courses are designed to help the student answer this question: "How are computing and mathematics used to solve interesting and complex problems in the sciences?" While the four courses can be seen as a progression from introductory to highly specialized, each course can be taken independently, as long as the specific pre-requisites have been satisfied.

All four courses stress learning and being able to demonstrate confidence and competence in doing computational science. All four courses end with the student doing a small research project or case study, either independently or in a small group. All four courses are heavily based on doing computational lab activities, and there is very little emphasis on traditional multiple-choice/fill in the blank types of assessments.

The four courses are, in order of sequence:

1. Introduction to Computational Science: An overview course that presents the technologies, techniques, and tools of computational sciences, and applied to problems from chemistry, physics, biology, social sciences, and the environmental sciences. Recommended for fall, junior year.

2. Computational Biology—Bioinformatics: The computational sciences applied to biology, primarily the analysis of genetic/genomic data. Recommended for spring, junior year.

3. Computational Chemistry: The computational sciences applied to chemistry, primarily quantum chemistry. This course is typically offered at the upper undergraduate/graduate at most universities, and requires a strong chemistry background and at least 12 hours/week of dedicated time. Recommended for fall, senior year.

4. Computational Medicinal Chemistry: The computational sciences applied to drug design and pharmacology. Like computational chemistry, this course is typically offered at the upper undergraduate/graduate level, requires a strong chemistry and biology background, and at least 12 hours/week of dedicated time. Recommended for spring, senior year.
**Introduction to Computational Science- IE340 (fall)**
This is an honors level introductory course in the technologies, techniques, and tools of computational science. Computational science, not to be confused with “computer science,” looks to answer this question: “How can computers and mathematics be used to study interesting problems in science and social science?” Computational science is sometimes known as “modeling and simulation,” or “scientific computing,” and looks to create and use mathematical models to study complicated and complex problems in all areas of study.

**Weekly Webinar**
Thursday at 8:30pm

**Prerequisites or Suggested Skills**
There are no prerequisites for this course. This is a computer-intensive course; there are no physical (wet) labs.

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**Computational Biology—Bioinformatics- IE380 (spring)**
Computational biology – known also as “bioinformatics” – is a hybrid, interdisciplinary course, and is one of the most important new fields of study in science. Computational biology isn’t a biology course per se – it’s the application of computing and mathematics (primarily statistics) to biological data. What biological data? Mostly genetics and genomics data, such as studies of DNA extracted from mice breeding experiments to predict the genetic basis of diseases such as cancer, high blood pressure, and obesity! Do well in this class, and there will be a multitude of opportunities open as an undergraduate researcher and beyond!

**Weekly Webinar**
Wednesday at 8:30pm

**Prerequisites or Suggested Skills**
Students should have completed Biology or Genetics at the honors or AP level before enrolling in Bioinformatics.
Computational Chemistry- CH412 (fall)
This course is designed to teach students the technologies, techniques, and tools of computational science. The course will benefit students who are interested in any area of study that uses chemistry (including subjects such as environmental science, medicine, biology, materials science, nanotechnology, etc.)

Weekly Webinar
Wednesday at 8:30pm

Prerequisites or Suggested Skills
Students should have at least one semester of chemistry, preferably at the honors/AP level. Students should have a reasonable mathematics background, preferably at the algebra level or higher. Ability to work in a computing environment is important in doing computational chemistry. Students will spend a considerable number of hours interacting with the computer in this course.

Computational Medicinal Chemistry- CH414 (spring)
Computational Medicinal Chemistry is the study of how new drugs are developed and tested. Students will learn the basic concepts and methods used by medicinal chemists. In the process of doing so, basic and advanced concepts in chemistry, biology, mathematics, and computing will be learned and applied to one or more medicinal chemistry problems. As such, this is an applied course: students will be expected to apply their knowledge of the basic sciences to medicinal chemistry challenges of increasing difficulty. This course makes significant use of computer modeling (computational chemistry). NCSSM is one of the only high schools in the country that teaches a formal course in medicinal chemistry.

Weekly Webinar
Thursday at 8:30pm

Prerequisites or Suggested Skills
Students should have at least one semester of chemistry, preferably at the honors/AP level. Students should also have reasonable mathematics background, preferably at the algebra level or higher. Students will spend a considerable number of hours interacting with the computer in this course.
Advanced Chemistry- CH424 and AP Chemistry- CH426 (two-course sequence)
Advanced Chemistry is a fast paced, rigorous, semester-long course designed, in conjunction with AP Chemistry-CH424, to cover the AP Chemistry curriculum and prepare the student to succeed on the AP Chemistry exam. This course covers advanced chemistry concepts and uses a college-level textbook. Students will engage in individual and group activities, including weekly web conferencing, online virtual or video labs, tests, and homework assignments. Students will also attend sessions on the NCSSM campus.

Weekly Webinar
Monday at 8:05pm

Prerequisites or Suggested Skills
Prior to taking Advanced Chemistry, students should have received at least a B in a prior Honors Chemistry course. Students with no prior chemistry course must obtain approval from the Dean of Distance Education.

Advanced Topics in Environmental Science- BI430 and AP Environmental Science- BI432 (two-course sequence)
This course is designed to survey key scientific information and policy issues in environmental science in order to prepare students for the advanced placement examination in this subject and for good citizenship. During the first semester, students explore how these processes have grown independent over millennia to form life-sustaining earth systems. In the second semester of the course, students evaluate the effect of human activity on the earth's natural processes in order to consider how economic development, policy, and human activity can be practiced in a sustainable manner. Taking this course along with AP Environmental Science in the spring semester is recommended for complete preparation for the AP Environmental Science examination in May.

Weekly Webinar
Wednesday at 8:30pm

Prerequisites or Suggested Skills
Students should have studied biology and/or chemistry at the high school level before taking this course.
Advanced Physics- PH424 and AP Physics B- PH426 (two-course sequence)
Advanced Physics and AP Physics B is a year-long curriculum for students who are interested in studying physics as part of the basis for more advanced work in college in the life sciences, medicine, geology, or related areas. The course focuses on developing conceptual understanding and problem-solving abilities. A hands-on laboratory component is included.

Weekly Webinar
Tuesday at 9:00pm

Prerequisites or Suggested Skills
- Successful completion of a precalculus course
- Successful completion of an honors level physics course or an honors or AP level chemistry course
- Students must have access to a fax machine or document scanner, as some assignments will be written on paper.

Climate Change Biology- BI404 (fall and spring)
Climate Change Biology is the study of the impact of climate change on natural systems in the environment with emphasis on understanding the interactions between biological systems and the climate system. The goal of climate change biology is the development of management techniques designed to preserve natural systems. Students study past climate-biological systems interactions, currently observed changes, biological theory, and modeling in order to develop an understanding of possible mitigation and management approaches.

Weekly Webinar
Tuesday at 8:30pm

Prerequisites or Suggested Skills
Students should have studied biology and/or ecology at the high school level before taking this course. AP Environmental Science would be an excellent preparation but is not a formal prerequisite.

Forensic Science- IE306 (fall and spring)
Forensic Science is a laboratory-based introduction to the analysis of crime scenes that explore the collecting and analyzing of physical evidence. This course is designed to integrate the core scientific disciplines (as outlined in the North Carolina Standard Course of Study for grades 9-12) while giving students both theory and hands-on experience with the skills and knowledge required.
of a forensic crime scene investigator. This multidisciplinary approach will highlight topics in DNA, genetics, anatomy, chemistry, physics, entomology, botany, and investigative techniques with supplemental subject matter through case studies, earth science, mathematics, medicine, technology and sociology. In addition, the ethical, legal, and social concerns surrounding forensics will be discussed. Process skills will include comparative analysis, critical thinking, deductive reasoning, interviewing, observation, organization, problem solving, research, communication, evidence collection, lab safety, and technical reading. Project-based learning through laboratory investigation and discussions/class lecture will serve as the main method of content delivery. Individually and in groups, students will work on case studies using facts, logic, and objective thinking to research crimes and apply the processes used to solve them.

**Weekly Webinar**
Wednesday at 8:00pm

**Prerequisites or Suggested Skills**
No academic prerequisites, however, this class deals with graphic content. Parents are asked to sign a permission slip at the beginning of the course, but students are also expected to be mature when dealing with this content.

**Genetics and Biotechnology-BI354 (fall and spring)**
Now that “source code” for human development, the human genome, has been deciphered, revolutionary developments in medicine, agriculture, and criminal justice are reported seemingly every day. Innovations in biotechnology, empowered by genetics, are likely to be major drivers of economic development in the 21st century in North Carolina and around the world. This class is designed to provide students with a broad understanding of genetics and the laboratory techniques that are widely used in academic research and the biotech industry.

**Weekly Webinar**
Monday at 8:00pm

**Prerequisites or Suggested Skills**
None

**“Green” Environmental Geology- IE404 (spring)**
"Green" Environmental Geology blends environmental science and geology together to examine Earth processes, how humans change Earth processes, and how Earth processes have changed
humans. This honor’s level course examines natural hazards, resource extraction and usage, and pollution and waste management by focusing on environmental impact and the physical characteristics of physical phenomena and resources. Students will focus on the physical and chemical characteristics of geologic resources and processes while the “Green” aspect focuses on how humans shape and interact with these processes. Students will complete field laboratory, interactive, and case study exercises throughout the course and focus on reading major supplemental materials on human impacts on the environment and research a major investigative environmental problem within North Carolina and present the research as a fact sheet targeted at the public. Assessments include two major exams, as well as quiz, homework, and group exercises.

**Weekly Webinar**  
Wednesday at 9:00pm

**Prerequisites or Suggested Skills**  
No prerequisites.

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**Introduction to Applied Chemistry and Engineering- IE402 (fall and spring)**  
This is a semester-long interdisciplinary course that focuses on the industrial practice of chemistry. It provides students with a real-world perspective thereby creating an awareness of the relevance of chemistry to their daily lives. For example, students will learn in a chronologically historical sequence about major developments in industrial chemistry, such as ammonia, aluminum, and nylon that have significantly affected people’s lives. Students will engage in individual and group online activities, as well as collaborative lab experiences on campus, such as developing soap or aspirin.

**Weekly Webinar**  
Monday at 9:05pm

**Prerequisites or Suggested Skills**  
Prior to taking this course, a student should have received at least a B in an Honors Chemistry course.
Ecocriticism: Nature in Thought and Writing- EN364 (fall)

This course is focused on language and composition through the specific lens of Ecocriticism. While learning the literary conventions, structures and elements necessary to evaluate any piece of prose, students will focus on how authors have addressed the physicality of the natural world including the way people encounter and describe the “otherness” of nature, the evolution of human understanding of the environment, and the effect of that development on the understanding of humans, the issues resulting in irresponsible interactions with the environment, and how these global ideas manifest themselves in local and individual behaviors. There will be background lectures, readings, and visual presentations. Students will actively participate in the acquisition and exchange of ideas through online discussions and in special enrichment sessions held during residential weekends. Assessments will help students develop a deeper understanding of our natural world and their place in nature through writing on topics addressed in the readings, images, and films.

Weekly Webinar
Tuesday at 7:00pm

Prerequisites or Suggested Skills
Students should have knowledge of American Literature, experience in writing essays, and background in literary study as well as a B+ or better in English 2.
Introduction to International Relations - SS358 (fall)
Why did the United States invade Iraq in 2003? What was so significant about China hosting the Olympics in 2008? Why do states often adopt protectionist measures during economic downturns such as the one being experienced today? International Relations introduces students to the formal study of international political questions such as these, focusing on the broad subject areas of international security and economics. Students learn about the primary actors, their various instruments, and their common interactions. This course offers students a conceptual toolbox for framing international interactions and analyzing their causes and consequences. In addition, students stay abreast of major international events by regularly reading major news sources. The primary objective is for students to analyze historical and current international relations through contending theoretical perspectives.

Weekly Webinar
Monday at 8:00pm

Prerequisites or Suggested Skills
This is a senior-level course; juniors may register by instructor permission only. Those who succeed in the course typically enjoy reading, thinking, and engaging new ideas.

Introduction to Western Political Thought - SS350 (spring)
Introduction to Western Political Thought presents traditional Western conceptions of justice, morality and good governance. The course begins with ancient political theorists then transitions to the "moderns" including Machiavelli, the social contract theorists, and Marx. In addition to discussing the history of political ideas, this course emphasizes the interpretation and discussion of these ideas in light of current political debates. The focus of this course is to study seminal political works from the Western tradition and to identify the relevance (or disutility) of Thucydides, Plato, Rousseau and Machiavelli, among others, for modern political discourse.

Weekly Webinar
Monday at 8:00pm

Prerequisites or Suggested Skills
There are no prerequisites. Those who succeed in the course typically enjoy reading, thinking and engaging new ideas.
Science, Catastrophe and Culture- SS416 (spring)
This is a college-level, interdisciplinary cultural studies course focusing on the history of natural philosophy and science in the West, and how alterations in the way humans define the natural world help produce rapid and sweeping changes. Students will explore the way people define and represent themselves and their world in literature, philosophy, and the visual arts. The focus of the course includes the idea of the individual, views of Nature, definitions of the just society, and ideas about history and the human past. Students will examine how mind, reason, and the idea of the individual have impacted the Western world. There will be background lectures, readings, and visual presentations. In addition, students will actively participate in the acquisition and exchange of ideas through online discussions and in special enrichment seminars that will take place during residential weekends. All assessments are essay-based and will explore topics raised in the readings, lectures, and discussions.

Weekly Webinar
Tuesday at 7:00pm

Prerequisites or Suggested Skills
Students should have completed 11th Grade English, and be self-motivated and active learners who like to develop their own interpretations.
QUICK LINKS

IVC Enrollment Forms:
http://www.ncssm.edu/learn/

NCSSM Online:
http://online.ncssm.edu/

NCSSM Online Program—Application for Enrollment:
https://apply.ncssm.edu/