Honors RAP: Science and Math

Students can be any major to live in this RAP, and will be living with someone else who has chosen this Honors RAP. This program is designed for students who have an interest in the sciences or mathematics as the courses they choose from will be among those. Students choose ONE course from a list of math and science courses (after taking the math placement test and meeting with their academic advisor during New Student Orientation).

We are excited to announce that the Science & Math Honors RAP will have two locations in fall 2015:

--One program will be located in Sycamore Hall, one of the first-year buildings located in the Commonwealth Honors College Residential Community. Students in this section of Science & Math Honors RAP will choose a section of Ideas that Change the World in addition to their math or science course for this Honors RAP (course descriptions below).

--The other will be located in Melville Hall, a low-rise Honors Living-Learning Community located in southwest. Students in this section of Science & Math Honors RAP will take a 1-credit Front Page seminar where they will have the opportunity to discuss current events from the science field in addition to the selected math or science honors course (course descriptions below).

Dorms: Dickinson

Related Courses:
- Math 127H: Calculus for Life and Social Sciences

**Calc Life-Soc Sci I** - Basic calculus with applications to problems in the life and social sciences. Functions and graphs, the derivative, techniques of differentiation, curve sketching, maximum-minimum problems, exponential and logarithmic functions, exponential growth and decay, and introduction to integration. Prerequisite: proficiency in high school algebra, including word problems. There will be some emphasis on the underlying theory, that more applications will be included, and that some attention will be paid to history. Active student participation will be encouraged.
Math 131H: Calculus 1

Calculus 1 - Continuity, limits, and the derivative for algebraic, trigonometric, logarithmic, exponential, and inverse functions. Applications to physics, chemistry, and engineering. Students expected to have and use a Texas Instruments 86 graphics, programmable calculator. Prerequisites: high school algebra, plane geometry, trigonometry, and analytic geometry. There will be some emphasis on the underlying theory, that more applications will be included, and that some attention will be paid to history. Active student participation will be encouraged.

Math 132H: Calculus 2

Calculus 2 - The definite integral, techniques of integration, and applications to physics, chemistry, and engineering. Sequences, series, and power series. Taylor and MacLaurin series. Students expected to have and use a Texas Instruments 86 graphics, programmable calculator. Prerequisite: MATH 131 or equivalent. There will be some emphasis on the underlying theory, that more applications will be included, and that some attention will be paid to history. Active student participation will be encouraged. Recommended for Freshmen, Sophomores; Majors, Non-majors.

Math 233H: Multivariate Calculus

Multivariate Calculus - Techniques of calculus in two and three dimensions. Vectors, partial derivatives, multiple integrals, line integrals. Prerequisite: MATH 132, or 136. Students expected to have and use a Texas Instruments 86 graphics, programmable calculator. There will be some emphasis on the underlying theory, that more applications will be included, and that some attention will be paid to history. Active student participation will be encouraged.

Chem 121H: Honors General Chemistry

Honors General Chemistry - Basic Principles of chemistry. Microscopic nature of atoms and molecules; macroscopic properties of chemical systems. Topics include stoichiometry, atomic and nuclear structure, chemical bonding, molecular structure, gases, and intermolecular forces. Includes laboratory. More extensive lecture treatment of advanced topics and laboratory work than CHEM 111.

Honors 201H - Commonwealth Honors Seminar - Ideas that Change the World

In this interdisciplinary, discussion-based seminar, students will examine innovative thinkers, groundbreaking ideas, and the strategies that transform these ideas into
The course explores dilemmas addressed by the sciences, the arts, and the humanities. In each of these broad areas, the course focuses on questions about human nature, the sources of our knowledge, and the application of that knowledge to the solving of perennial and contemporary problems. The semester begins with inquiries into the nature of truth, of particular relevance in our era of debates over “alternative facts.” Then the course considers ongoing problems of violence, injustice, and environmental crisis. Our inquiries will establish a dialogue between past and present as we examine historical figures such as W.E.B. Du Bois, Rachel Carson, along with present-day innovators such as Temple Grandin and the Dalai Lama.

**More details about the course**

**Honors 191FP: Front Page Seminar**

An opportunity to discuss current state, national, and global issues and events with talented faculty AND distinguished community members and influential alums. Class time will be devoted to vibrant and challenging discussions based on critical reading and analysis of newspaper articles on current issues. Requirements: Reading the front page stories from the New York Times and the Boston Globe daily. Supplemental reading as needed. Objective: Training students as opinion leaders; to encourage them to be steadily engaged in the social, political and economic concerns of their time; to provide a context for interaction with experts and significant community members, and prepare them with verbal skills that are important in interviews for scholarships, graduate and professional schools, and employment.

**Source URL (retrieved on 04/21/2018 - 8:43pm):**

[https://www.honors.umass.edu/honors-rap-science-and-math](https://www.honors.umass.edu/honors-rap-science-and-math)