

## LdM Rome STEM Program

The LdM Rome STEM Program offers STEM and related majors a unique educational opportunity - rigorous science courses taught in collaboration with Università Roma Tre, offering state-of-the-art teaching and research laboratories.

The core of the LdM Rome STEM Program is a required course on Italy's Contribution to Modern Science. For centuries, Italian researchers have advanced the sciences, often affecting paradigm shifts. By examining important scientists from the Renaissance to the present, students explore the development of scientific thinking, its cultural contexts and its public role. Rome offers the perfect setting for this integrated exploration of the sciences and their histories.

Students combine this core course with a selection of varied STEM-area courses. In Fall 2016, STEM courses will be offered in the fields of biology, chemistry, and mathematics. In addition, students may choose general education courses in a variety of fields including art history, business, classical studies, communications, Italian language, literature, philosophy and religious studies, political science and international studies and psychology.

**Students participating in the LdM Rome STEM Program are required to have a minimum 3.0 cumulative GPA. Specific STEM attendance and grading policies apply.**

## Contact Us

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## LdM Overview

Istituto Lorenzo de' Medici (LdM), with more than 40 years of experience offering international higher-education, is one of the most distinctive and well-established study abroad institutions in Italy. LdM prides itself on offering academic and professionally-oriented courses designed to complement a variety of study abroad programs, as well as to enrich students' knowledge, education and skills. **Students may choose from 500 different courses in 38 subject areas, which are taught in English at LdM's three locations: Florence, Rome, and Tuscany.** At each of LdM's three campuses, the educational opportunities are deeply rooted in their surrounding environments, allowing students to experience first-hand the inspiring culture of both historical and contemporary Italy.

Courses fall under six main academic divisions: Liberal Arts and Social Sciences, Creative Arts, Design, Sciences, Agriculture, and Italian Language and Culture. LdM integrates formal, university-level learning with an emphasis on personal growth, individual engagement, and community responsibility. Students participating in science courses in Rome are required to have a minimum 3.0 cumulative GPA. Specific STEM attendance and grading policies apply.

## Fall 2016 Program Offerings

### Sciences Courses

- General Biology II with Laboratory (4 credits)
- Introduction to Molecular Genetics with Laboratory (4 credits)
- Human Anatomy II with Laboratory (4 credits)
- Organic Chemistry II with Laboratory (4 credits)
- Calculus for Science Majors III (3 credits)
- Statistics for Science Majors (3 credits)

### Mandatory Core Course

- Italy's Contribution to Modern Science (3 credits)

### Additional Course Offerings

For Liberal Arts and Social Sciences, Creative Arts, Italian Language and Culture, and general education courses, please see the LdM Rome Fall 2016 Semester schedule:

Updated schedules available at [www.ldminstitute.com](http://www.ldminstitute.com)



# LdM

The Italian  
International  
Institute

Lorenzo de' Medici

[www.ldminstitute.com](http://www.ldminstitute.com)

# LdM Rome STEM Program

## Courses Fall 2016

COURSES ARE TAUGHT IN ENGLISH.

### BIO 202 R - General Biology II with Laboratory

The course deals with the study of the diversity of fungi, plants and animals (invertebrates and vertebrates) in terms of their evolution relative to the environment. It will explore the biodiversity of these organisms at different levels including their distinct physiology, anatomy and ecological aspects. The Lab will emphasize the classification and the identification of different species through their macroscopic anatomy. This course is for science majors only. Note: specific STEM attendance and grading policies apply.

**Prerequisites:** Grade of C or higher in General Biology I with Laboratory, or equivalent

### BIO 280 R - Introduction to Molecular Genetics with Laboratory

This course provides students with a foundation of the principles of genetics. Starting with the study of the function and structure of DNA and RNA, the course explores the principles of genetics such as transmission (Mendelian Inheritance), gene expression and recombination. Lectures are combined with laboratory sessions to provide students with practical knowledge of the techniques of molecular genetics. This course is for science majors only. Note: specific STEM attendance and grading policies apply.

**Prerequisites:** General Biology I with Laboratory, or equivalent

### BIO 320 R - Human Anatomy II with Laboratory

This course is the second part of a two-semester introductory sequence to human anatomy and physiology. It emphasizes tissue organization, physiology and structure of endocrine, cardiovascular, respiratory, immune, digestive, reproductive, lymphatic systems. The laboratory reflects these topics. This course is for science majors only. Note: specific STEM attendance and grading policies apply.

**Prerequisites:** Grade of C or higher in Human Anatomy I with Laboratory, or equivalent

### CHM 222 R - Organic Chemistry II with Laboratory

This course is the second part of a two-semester introductory sequence to organic chemistry. The course provides the extension of the principles of the relationship between structures, properties, functionalities and resulting reactions of organic compounds. The compounds covered include alcohols, ethers, conjugated system, amines, carbonyl derivatives and others. The course focusses on reaction mechanisms, stereochemistry, multiple step synthesis and advanced spectroscopic analytics. Accompanying three-hour weekly laboratory session is hands-on experience that consolidates and expands upon the theory and concepts learned, with training in various techniques for separation, synthesis and analysis. This course is for science majors only. Note: specific STEM attendance and grading policies apply.

**Prerequisites:** Grade of C or higher in CHM 221 Organic Chemistry I with Laboratory, or equivalent

### MAT 225 R - Calculus for Science Majors III

This course is the third part of a three-semester introductory sequence in calculus for science majors. It treats calculus of several variables. Topics include real valued functions of several variables, multiple integration, differential calculus of the functions of several variables, vector field theory. This course is for science majors only. Note: specific STEM attendance and grading policies apply.

**Prerequisites:** Grade of C or higher in MAT 175 Calculus for Science Majors II, or equivalent

### MAT 280 R - Statistics for Science Majors

This course introduces science students to the foundations of statistics, covering topics such as the description and visualization of data, simple probability, the normal distribution function, hypothesis testing and regression. The course will require the use of a computer and the software Excel and its add-ins, or other comparable software packages. This course is for science majors only. Note: specific STEM attendance and grading policies apply.

**Prerequisites:** Intermediate Algebra, or equivalent

### HIS 281 R / PHR 281 R - Italy's Contribution to Modern Science

This course introduces science students to the historic developments of the basic principles and theories of modern physics, astronomy, engineering, chemistry, and biology. Students learn about the contributions of great Italian scientists and mathematicians, from the early modern period, through the Enlightenment era, and the Twentieth Century. Figures studied include Leonardo da Vinci, Galileo, Vincenzo Viviani, Alessandro Volta, Enrico Fermi, and others. Ideas and discoveries are contextualized by exploring their impact (and that of related technologies) on history and society.

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