

Loyola's Leadership in Inservice Teacher Education

Working with the faculties of the College of Arts and Sciences and the School of Education, Loyola's Center for Science and Math Education has coordinated efforts to provide a large number of programs dedicated to the mission of improving the quality of science and math education in area schools.

Our faculty has worked with K-8 and High School teachers of both mathematics and science.

A History of Successful Programs

- ❖ More than 70 middle grades teachers have obtained science and/or mathematics endorsements
- ❖ More than 20 teachers have received a Masters of Education in Middle Grades Science Teaching
- ❖ Our Physics Endorsement Program has already increased the number of certified physics teachers in Chicago by 10%
- ❖ We are in our third year as a science Instructional Development System in the CPS High School Transformation Project, serving 11 high schools

Please visit our website www.luc.edu/cse to learn more.

Sequence of Courses

All courses will be taught by full-time faculty from Loyola University Chicago's Center for Science and Math Education, School of Education and College of Liberal Arts and Sciences. Numbers in parentheses indicate the credit hours for the course. The tentative schedule of courses is as follows:

Fall 2009

Mathematical Techniques in the Sciences (3)
Laboratory Activities in Earth & Space Science (1)

Spring 2010

History of the Earth (3)
Data Analysis in Earth & Space Science (1)

Summer 2010

Introduction to Research (3)
Action Research to Improve Teaching and Learning, Part A (1)

Fall 2010

Scientifically-Based Research (3)

Spring I, 2011

Comparative Planetology: Surfaces, Interiors (3)

Spring II, 2011

Comparative Planetology: Atmospheres (3)

Summer 2011

Advanced Literacy in the Content Areas (3)
Action Research to Improve Teaching and Learning, Part B (1)

Fall 2011

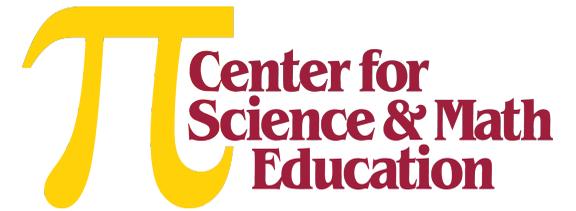
The Earth in Space (3)
Modern Topics in Earth & Space Science (1)

Spring 2012

Inquiry-Based Science Teaching (3)
Action Research to Improve Teaching and Learning, Part C (1)

Summer 2012

Curriculum Development & Implementation (3)



Master's of Education in Earth and Space Science Teaching



Preparing people to lead extraordinary lives



Earth and Space Science for Real-World Classrooms

The Center for Science and Math Education and the School of Education at Loyola University Chicago introduce a new M.Ed. program designed specifically for high school Earth and space science teaching.

Designed in collaboration with Chicago Public Schools and area museums, the M.Ed. in Earth and Space Science Teaching program is designed for science teachers in urban settings. Focused on learners in high-need districts, the program emphasizes inquiry pedagogy, as supported by the current literature on effective science teaching.

The M.Ed. in Earth and Space Science Teaching program is designed to fit the busy schedule of inservice teachers. Fall and spring classes are held one night a week, and summer classes provide concentrated, in-depth learning.

Because of generous anticipated funding from the Math Science Partnership of the Illinois State Board of Education and Loyola University Chicago, qualified applicants to the program's first cohort (those entering the program in September 2009) will receive tuition at no cost. This subsidy will be contingent on Loyola's successful application to receive ISBE grant funds.

Please contact us at science@luc.edu for details.



Features of the Program

The M.Ed. in Earth and Space Science Teaching program combines specially-tailored Earth and space science content with the latest perspectives in classroom pedagogy. The 36 semester-hour program is shared between pedagogy and Earth and space science coursework, designed to complement one another in unique ways:

- ❖ All Earth and space science courses are taught from an inquiry-based perspective. An in-depth look at inquiry-based science teaching is provided in one of the education courses.
- ❖ Loyola's unique partnership with Chicago's Adler Planetarium will allow program participants to access the resources of the planetarium and the knowledge of Adler's professional team.
- ❖ Courses in the program adopt a multi-disciplinary approach to the teaching of Earth and space science. Elements of biology, chemistry and physics will be integrated seamlessly into each of the program's Earth and space science courses.
- ❖ Participants in the program will become expert not only in content knowledge but also in science education. Three separate courses—research methodology, literacy in the content areas, and action research, will enable teachers to become science education leaders in their schools and districts.

- ❖ The program's series of one-hour courses will introduce teachers to Earth and space science laboratories, utilization of the data archives of both NASA and the National Weather Service, and talks with top figures in the Earth and space science field.
- ❖ Participants will engage in peer teaching sessions in order to practice new pedagogical skills.
- ❖ The special skills in mathematics and literacy needed for high school Earth and space science teaching will be honed in cross-disciplinary courses.
- ❖ In both Earth and space science and education courses, teachers will have time to work in groups to determine how to incorporate their new content and pedagogy skills into their teaching.
- ❖ Unlike traditional Earth and space science programs that separate coursework into discreet astronomy, geology and meteorology segments, Loyola's M.Ed. in Earth and Space Science Teaching program adopts a comparative planetology approach, examining planetary evolution and properties in terms of the underlying physical, chemical and biological phenomena.

Innovative Partnerships

Loyola University Chicago's partnerships with the Museum of Science and Industry, Adler Planetarium and other Chicago-area science organizations will provide access to unique community resources and the expertise of real-world professionals.

More Information

Program Information

www.luc.edu/cse

Program Applications

Applications will be available soon. Please contact us at science@luc.edu if you are interested in applying to this program.

If you are a Chicagoland high school teacher interested in earning an M.Ed. in Science Education and also obtaining the Earth & Space Science designation, please contact us for information about how our program is specifically designed to meet your professional needs.

