MASTER OF SCIENCE IN INTEGRATED SCIENTIFIC APPLICATIONS (MSISA)

The mission of the MSISA program is to produce exemplary professionals with cross-disciplinary scientific skills and business knowledge.

PROGRAM BENEFITS

- Seven-week courses
- Offered fully online asynchronously
- Thirty-credit, nonthesis programs
- Three concentration areas

LEARNING OUTCOMES

- Demonstrate a measurable level of business/economics acumen and an understanding of fundamental concepts in the scientific specialization.
- Articulate an understanding of the key overlapping concepts bridging the application of scientific information in business practices.
- Develop technical skills and proficiencies and their application at the intersection of business and science.
- Interpret and communicate the application of science information in the context of risk and impact assessment.
- Examine and analyze the application of environmental/scientific data and analytical tools for planning and management within a business context.

CONCENTRATIONS AND CURRICULUM

MSISA CORE COURSES *(Students must complete all)*

- ISCA 500 Technical and Professional Writing for Scientists
- ISCA 591 Introduction to Geospatial Information and Technologies
- BUAD 653 Operations Management
- BUAD 670 Strategy and Policy
- ECON 507 Environmental Economics and Policy
- MATH 535 Statistical Methods

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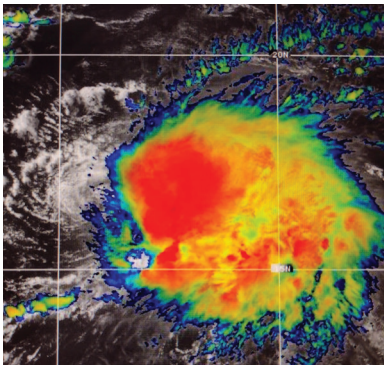

ENVIRONMENTAL EARTH SYSTEMS MANAGEMENT (EESM)

The EESM specialization integrates broad expertise in environmental studies from across several disciplines with the technical skills needed for success in a management role.

CONCENTRATION COURSES:

- ISCA 507 Sustainability in the Anthropocene
- ISCA 607 Global Environmental Policy and International Negotiations
- ISCA 682 Contemporary Issues in Water Resource Governance
- ISCA 685 Adv. Topics in Environmental Earth Systems Management

GEOINFORMATICS

Geoinformatics provides students with a deep background in the analysis of complex geographical data. Students will be immersed in hands-on learning to gain cross-disciplinary expertise through real-world projects. Students will obtain skills in remote sensing, data management, GIS and image analysis.

CONCENTRATION COURSES:

- ISCA 585 Spatial Data Science
- ISCA 595 GIS and Geoinformatics
- ISCA 662 Advanced Topics in Remote Sensing
- ISCA 695 Special Topics in Advanced Geoinformatics

WEATHER INTELLIGENCE AND RISK MANAGEMENT

This online program enhances students' proficiency in quantifying uncertainty and managing weather risk within business enterprises. This program aims to produce exemplary professionals with cross-disciplinary scientific skills and business knowledge.

CONCENTRATION COURSES:

- ESCI 541 Severe Weather Decision and Support
- EMGT 619 Emergency Management Planning
- ISCA 642Weather Risk Management
- ISCA 643 Climate Science Applications
- ISCA 645 Advanced Topics in Business Weather Intelligence

POTENTIAL CAREERS

EESM:

- Environmental risk management
- Water resource management
- Operations coordination
- Watershed sustainability management
- Environmental policy
- Environmental law

GEOINFORMATICS:

- Data analyst
- Project manager
- Research technician
- GIS environmental analyst
- Database administrator (public/private and nonprofit)

WEATHER INTELLIGENCE AND RISK MANAGEMENT:

- Energy trader
- Weather risk analyst
- Weather-related commodity trader
- Weather derivatives valuation
- Weather insurance manager

CONTACT INFORMATION:

Dr. Lynn Marquez
Professor of Geology & Department Chair
Phone: 717-871-4339
Email: lynn.marquez@millersville.edu