

# CORPORATE CATALOG

## OUR HIGHLIGHTS

### PROFESSIONAL DEVELOPMENT

We have 100% completely online courses built for current agriculture professionals on Precision Ag, Agronomy, and Nutrient Management

### GRADUATE CERTIFICATES

Engage in courses that tackle emerging trends and in demand skills like Spatial Data Science and Biotechnology and Regulatory Science

### INNOVATIVE MASTER'S PROGRAMS

We have a hybrid MS in Biotechnology Innovation and Regulatory Science and a MS-MBA in food and agribusiness management



College of Agriculture



3 World Food Prize laureates: Adesina (2017), Ejeta (2009) and Nelson (2007)



#1 Agricultural and Biological Engineering program in the U.S.



#7 Agriculture program in the U.S.

## ADAPTABLE EDUCATION TO UPSKILL AG PROFESSIONALS



The college of Agriculture is pleased to provide flexible options to upskill and educate working professionals in the field of agriculture. All of our programs offer are designed for today's working professional by focusing on:

- **Flexibility:** Most of the programs are fully online, while others offer a hybrid approach, working around the schedules of professionals, in some cases, meeting on weekends.
- **Options:** Whether it's a one-off course, grad certificate, or a degree option, you can choose the option that makes the most sense.
- **In-Demand Skills:** All options showcased in this brochure are designed to help Ag professionals take the next giant leap in their career.

For more information, visit our website: <https://purdue.ag/agonline>

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Build expertise in spatial data science, GIS analytics and geospatial data visualization—100% online, and in just two semesters.

### 06 BIRS/BQRC

Move your career forward and become a leader in the growing field of pharmaceuticals, medical devices, and biotechnology industries.

### 10 MS-MBA

Take the degree you already have and add two from well-known, reputable universities with the MS-MBA in Food and Agribusiness Management.



**“One of the benefits I saw was I could directly correlate every school project to some real-life project at work. Because I was able to practice with the school project, it helped me understand the real-life project better and I could build better project plans based on the information and tools from school.”**



**– Amy Ranta,**

*Site Quality Head at Thermo Fisher Scientific*

# AGRONOMY E-LEARNING

## PROFESSIONAL DEVELOPMENT FOR AGRICULTURAL PROFESSIONALS

NON-CREDIT

The business of growing crops has become increasingly complicated in recent years, as agriculture has been challenged with growing demands to increase production while minimizing the environmental impact.

New technologies and a knowledge-based future will demand a more thorough understanding of the entire crop production system.

Advances in technology have also expanded Purdue University's educational outreach. Courses offered through Purdue's Agronomy e-Learning Academy are designed to meet



the educational needs of professionals in all areas of agriculture.

Three courses are available, and additional courses are being planned for the future.

Because the pre-recorded content is hosted on Purdue's Brightspace site and is accessible 24/7, busy professionals can plan their study time according to their schedules.

All of our courses were designed specifically to meet the needs of off-campus learners.

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### *Precision Agriculture*

Precision Agriculture is a fully online 12-week noncredit course that provides knowledge from which practitioners working in agriculture can better understand the science of site-specific farming to help themselves, their customers, and their companies. Designed for working professionals who must mix continuing education with work, family, and other responsibilities.

### *Agronomy Essentials*

Agronomy Essentials is designed for learners to complete one unit every two weeks, but they can work ahead as they choose. Each unit requires approximately four to five hours of study. Once a learner completes a module and its test, the next module opens. Once opened, the 26 modules within the six units remain open for review. The course contains over 100 HD video lessons along with supplemental reading, graphics, glossaries, links to additional information, downloadable slides, and tests after each module.

### *Nutrient Management*

Agricultural nutrient applications are associated with some of today's most concerning environmental issues, including impacts on water quality and contributions to greenhouse gases. Managing nutrients is one of the more complicated aspects of producing crops, as considerations vary by nutrient source, placement, timing, the rate of application, and are dramatically affected by the weather. Professionals in many areas of agriculture depend upon understanding soil chemistry and how nutrient management can increase the health and bounty of crop production. Knowledge of nutrients and their management can allow individuals involved in better setting strategies and improving recommendations.

Each course costs **\$2,000**

# SPATIAL DATA SCIENCE

## GRADUATE CERTIFICATE



2 Semesters



100% Fully Online

The Purdue online graduate certificate in spatial data science provides students with the knowledge and skills to:

- Master key concepts of geographic information systems (GIS) and spatial data science, including data sources, projections, spatial data processing and analysis methods, data and metadata creation and a conceptual framework for solving spatial problems.
- Apply spatial analysis techniques using GIS and other software to make judgments and solve problems in the environmental, agricultural and engineering sectors.
- Define landscapes and describe the causes (natural and human) of landscape pattern and the threats to biodiversity locally and globally.
- Demonstrate abilities to access and utilize geospatial data and understand data quality and levels of aggregation of spatial data.

### 1. ENVIRONMENTAL INFORMATICS

This course will educate students in the use, manipulation and analysis of environmental data by introducing them to scripting languages (e.g., C shell, Python), data types (e.g., ASCII, binary, NetCDF), databases (e.g., XML, DBF) and data visualization software (e.g., GMT, ArcMap) as well as techniques for checking data quality, working with missing data and handling large diverse sources of time series and spatial data. (3 Credits)

### 2. ADVANCED SPATIAL ECOLOGY AND GIS

Landscape ecology focuses on the important relationships of landscape structure (pattern, heterogeneity) and ecological processes (movement of animals, hydrologic dynamics) and how this information is used for natural resource management. Biogeography examines ecological patterns and processes at larger scales (generally at subcontinental to global) for the purposes of managing plants and animals of global importance. (3 Credits)

### 3. GEOGRAPHIC INFORMATION SYSTEM APPLICATION

This course provides an introduction to fundamentals of geographic information systems (GIS) for spatially analyzing problems related to environmental, agricultural and engineering domains. You will learn key concepts of GIS, including data sources, projections, spatial analysis methods, data and metadata creation and conceptualization framework for solving spatial problems. The course will use Esri ArcGIS Pro software. At the end of the course we expect you to be an informed GIS user, as well as being reasonably competent using ArcGIS Pro. (3 credits)

### 4. REMOTE SENSING OF LAND RESOURCES

This course introduces students to the principles of remote sensing and teaches methods for analysis and interpretation of remotely sensed data. The emphasis of the first half of the course is on passive optical technology and methodology for analysis of remotely sensed data. (3 Credits)

**This certificate costs \$9,000 (list price) for Indiana residents and \$9,300 for non-Indiana residents. Non-Credit single course options, also available.**

**NOTE: an Applied Geospatial Analytics Masters launches January, 2023.**

*This is a stackable certificate master's program that encompasses Strategic Communication, Applied Data Analytics, and Spatial Data Science.*

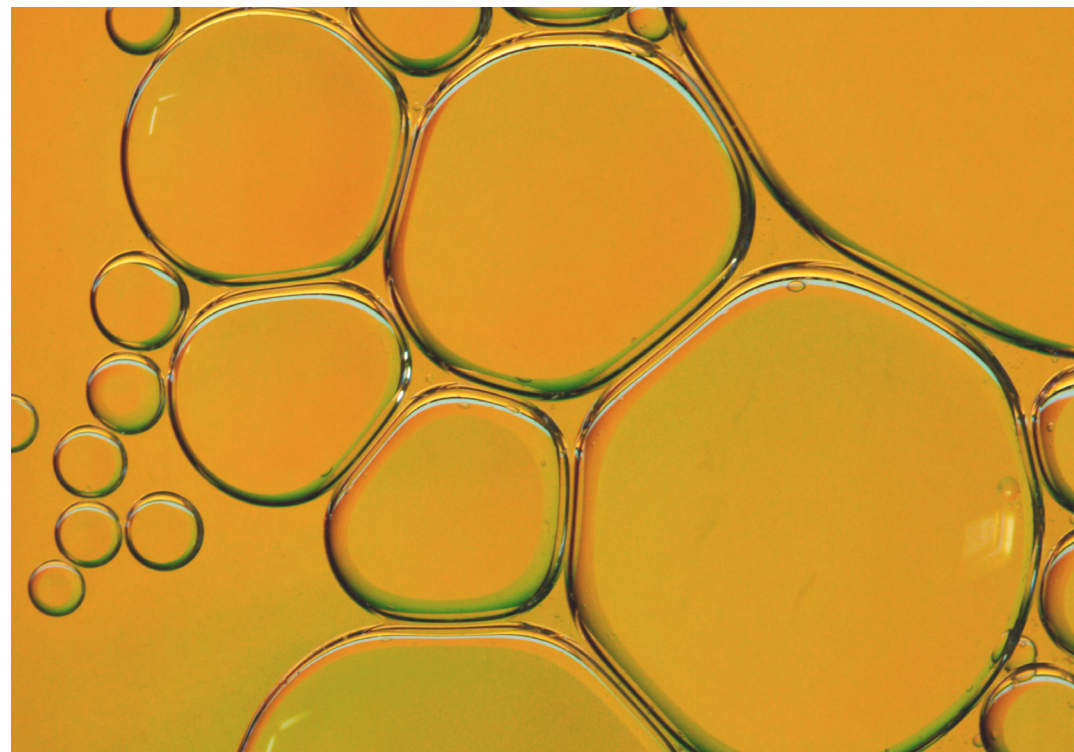
# BIOTECHNOLOGY INNOVATION & REGULATORY SCIENCES

## MASTER'S DEGREE

Become a leader in the growing field of pharmaceuticals, medical devices and biotechnology industries.

This curriculum focuses on advanced topics such as drug development, good regulatory practices, quality management and regulatory compliance.

Collaborate with industry and academic faculty to learn current best practices and hands-on laboratory skills in principles of systems, project management and global leadership. Technical concepts include quantitative thinking, good manufacturing practice (GMP) and molecular basis of manufacturing



The MS costs **\$30,000** for Indiana residents  
**\$30,900** for out-of-state residents

therapeutic products.

Unique to the program, you will develop and apply leadership skills through an authentic research project with impact in your professional

organization and beyond.

This flexible program consists of four semesters of online instruction with three on-campus weekends each semester. You can complete the

30 required credit hours in 22 months while balancing professional and personal commitments. If that doesn't work into your schedule, you can go at your own pace. ///

# BIOTECHNOLOGY QUALITY & REGULATORY COMPLIANCE

## GRAD CERTIFICATE

### 1. DRUG DEVELOPMENT

A review of drug discovery and drug development, with emphasis on the regulatory aspects of these activities. Animal preclinical research and human clinical research are discussed in detail. In addition, the process for the assembly of an IND and NDA is discussed along with the Phases (I, II, III) of human clinical trials. The CMC aspects of drug development are presented along with ICH documents and manufacturing process analytical technologies. (3 Credits)

### 2. GOOD REGULATORY PRACTICES

Includes a review of the FDA and ICH regulations on good manufacturing, good laboratory, good clinical practices. The meaning of these regulations, the globalization of practices and the roles and responsibilities of various professionals implementing these regulations will be addressed. Special emphasis will be detailed coverage of the process for the assembly and submission of an IND or NDA, and the function of the regulatory affairs department in a pharmaceutical company. (3 Credits)

### 3. QUALITY MANAGEMENT, AUDITS & INSPECTIONS

This course provides advanced topics in quality management and business improvement methods that apply to the pharmaceutical industry. Emphasis will be placed on specific issues of industry, audits, and inspections, as well as the successful selection and presentation of business and quality improvement projects to produce compliance and competitive advantage. (3 credits)

### 4. MOLECULAR BASIS IN MANUFACTURING

This advanced course addresses important Chemistry Manufacturing and Control (CMC) issues related to manufacturing and quality by design. This course will also focus on product design and processing. Using product and process design helps achieve quality by design (QbD), strong development reports, excellent regulatory submissions and allows continuous improvement. (3 Credits)

The certificate costs **\$12,000** (list price) for Indiana residents  
and **\$12,120** for out-of-state residents.

# FOOD & AGRIBUSINESS MANAGEMENT



## MS - MBA DEGREE

Take the degree you already have and add two from well-known, reputable universities with the MS-MBA in Food and Agribusiness Management.

### TWO DEGREES FROM TWO WELL KNOWN UNIVERSITIES

You'll earn an MBA from Indiana University's Kelley School of Business, a top 10 business school, and an MS in agricultural economics from Purdue University's College of Agriculture, ranked #15 in the world by Quacquarelli Symonds.

### LEARN RELEVANT AND APPLICABLE CONTENT

Credentialed faculty members balance theory with real-life application to strengthen your critical-thinking skills. Through the capstone project, you transfer classroom concepts to the workplace by focusing on a significant issue at your company.

### NETWORK AND BUILD LIFELONG RELATIONSHIPS

Your MS-MBA classmates represent various sectors of the food and agribusiness industries. By exchanging experiences and ideas through online courses and five one-week residencies, you expand your professional network and establish lifelong friendships.

## PROGRAM AT A GLANCE

