

# Davis College of Agriculture, Natural Resources, and Design

---

## Majors

The Davis College of Agriculture, Natural Resources, and Design is organized into three schools: Agriculture and Food; Design and Community Development; Natural Resources. There are a wide variety of major areas of study in which undergraduate students can earn a baccalaureate degree, including a college-wide pre-major for students that wish to explore courses throughout the college prior to deciding on a degree program. There also is a college-wide Multidisciplinary Studies major. These majors are listed below by the school in which they are taught. More detailed information on each major is provided in the appropriate school's section on the following pages.

### SCHOOL OF AGRICULTURE AND FOOD

- Agroecology
- Animal and Nutritional Sciences
- Applied and Environmental Microbiology
- Biochemistry
- Environmental, Soil and Water Sciences
- Horticulture
- Human Nutrition and Foods

### SCHOOL OF DESIGN AND COMMUNITY DEVELOPMENT

- Agricultural and Extension Education
- Design Studies
- Fashion, Dress and Merchandising
- Interior Design
- Landscape Architecture

### SCHOOL OF NATURAL RESOURCES

- Agribusiness Management
- Energy Land Management
- Environmental and Energy Resources Management
- Environmental and Natural Resource Economics
- Forest Resources Management
- Recreation, Parks, and Tourism Resources
- Wildlife and Fisheries Resources
- Wood Science and Technology

## Nature of Program

The Davis College offers students career paths that are exciting and rewarding. Through our diverse academic programs, students and faculty team up to discover agricultural practices that increase yields while improving the environment, producing bio-based energy alternatives, creating more nutritious and flavorful foods, restoring degraded ecosystems, conserving forests and natural resources, and designing both built and natural environments. Graduates of the Davis College pursue scientific and management careers that foster the wise management, utilization, and conservation of our soils, water, forests, wildlife, domestic animals, food, fiber, and living spaces.

The Davis College helps students adjust to their major and get to know their fellow students and professors. Distinguished faculty share their knowledge through hands-on learning in the field, classroom, and lab, and through academic advising. In the Davis College, we are committed to helping students succeed through a strong academic support system. Whether students are interested in animals, design, the environment, biosciences, or food and health, the Davis College is the perfect place for academic and personal growth.

## Accredited Programs

The following programs within the College are accredited by nationally and/or internationally recognized organizations: landscape architecture by the Society of Landscape Architecture; forest resource management and recreation, parks, and tourism resources by the Society of American Foresters; wood science and technology by the Society of Wood Science and Technology; agricultural and extension education by the National Council for

Accreditation of Teacher Education; interior design by the National Association of Schools of Art and Design; and the didactic undergraduate program in dietetics by the American Dietetic Association.

## Honoraries and Student Organizations

Students are encouraged to become active in honoraries and student professional associations and organizations. Those with a sufficiently high grade point average may be selected for membership in Phi Kappa Phi, the University-wide honorary recognizing excellence in scholarship. Within the College, outstanding students may be chosen for membership in Alpha Tau Alpha, Gamma Sigma Delta, Phi Upsilon Omicron, or Alpha Zeta. There are over twenty student clubs and organizations sponsored by the College.

## College-Wide Majors

There is a College-wide pre-major for the undecided student who enrolls in the Davis College and wishes to explore different academic areas before choosing a major from which to graduate. The Davis College offers a Multidisciplinary Studies major which requires completion of at least two minors of the required three minors in the Davis College and allows flexibility in defining an academic program that fits the student's career goals.

## Pre-Agriculture, Forestry, and Consumer Sciences Major

The Pre-Agriculture, Forestry, and Consumer Sciences (PAFCS) major in the Davis College is for the student who is undecided as to his or her career path and would like to explore different academic areas in the Davis College or other WVU colleges before choosing a major. A student cannot complete graduation requirements in the PAFCS major.

Students who meet WVU admissions requirements may be accepted directly into the Davis College pre-agriculture, forestry, and consumer sciences major. Students are advised by the Davis College's Associate Dean for Academic Affairs Office or a faculty advisor designated by the associate dean's office.

General Education Foundations courses are combined with introductory courses from majors in which the student may have an interest. PAFCS students are encouraged to talk with professors throughout the Davis College to gain knowledge of the many career options in our College.

There is no specific time when it is appropriate to choose a major since different majors have widely varying course requirements. Students can transfer into many majors at the end of the sophomore year and graduate in four years. However, some majors are more tightly structured and require initiation of studies in the freshman year to complete studies in four years. The PAFCS student's faculty advisor will provide him or her with guidance on major requirements throughout WVU.

---

## ADMINISTRATION

### DEAN

- Daniel J. Robison - Ph.D. (University of Wisconsin-Madison)

### ASSOCIATE DEAN OF ACADEMIC AFFAIRS

- J. Todd Petty - Ph.D. (University of Georgia)  
Academic Affairs

### ASSOCIATE DEAN OF RESEARCH

- Timothy T. Phipps - Ph.D. (University of California)  
Agriculture and Forestry Experiment Station

### SCHOOL/DIVISION DIRECTORS

- Gerald E. D'Souza - Ph.D. (Mississippi State University)  
Division of Resource Economics and Management
- Matthew A. Jenks - Ph.D. (Purdue University)  
Division of Plant & Soil Sciences
- Robert Burns - Ph.D. (Pennsylvania State University)  
Division of Forestry and Natural Resources
- Robert Taylor - Ph.D. (Mississippi State University)  
Division of Animal and Nutritional Sciences
- Judith Wasserman - MLA, MRP (Cornell University)  
School of Design and Community Development

## Degree Designation Learning Goals

### BACHELOR OF SCIENCE (BS)

Upon graduation, students will have attained the following knowledge bases, and career competency skills:

- A working knowledge of the basic sciences and scientific methods.
- A working knowledge of their discipline.
- The ability to write and present scholarly information.
- The ability to integrate knowledge and possess problem solving/critical thinking skills necessary for professional and social development and life-long learning and civic engagement.

### BACHELOR OF SCIENCE IN AGRICULTURE (BSAGR)

Upon graduation, students will have attained the following discipline knowledge bases, and career competency skills:

- Graduates will acquire a high level of competency in the basic sciences required for disciplinary competency.
- Graduate will integrate basic knowledge and managerial skills related to the animal, plant, nutritional and food sciences disciplines.
- Graduates will acquire sufficient written and oral communication skills, problem solving and critical thinking skills to effectively impact lifelong societal and professional developments critical to their respective discipline of interest.
- Graduates will attain depth of knowledge relative to the scope of subfields of the animal, food and nutritional sciences disciplines.

### BACHELOR OF SCIENCE IN FORESTRY (BSF)

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Ability in preparing and delivering effective oral presentations.
- Proficiency in English composition, technical/business writing, and writing for non-professional audiences.
- Ability to read with comprehension a variety of documents, and critically evaluate opposing viewpoints.
- Understanding of the components, patterns, and processes of biological and ecological systems across spatial and temporal scales.
- Understanding of molecular biology, cells, organisms, populations, species, communities, and ecosystems.
- Understanding of physical and chemical properties, measurements, structure, and states of matter.
- Ability to understand and use the basic approaches and applications of mathematics and statistics for analysis and problem solving.
- Understanding of, and an ability to address, moral and ethical questions and an ability to use critical reasoning skills.
- Understanding of human behavior and social and economic structures, processes, and institutions of importance across a broad range of societies.
- Understanding of the diverse dimensions of the human experience and culture.
- Understanding of taxonomy and ability to identify forest and other tree species, their distribution, and associated vegetation and wildlife.
- Understanding of soil properties and processes, hydrology, water quality, and watershed functions.
- Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling.
- Ability to make ecosystem, forest, and stand assessments.
- Understanding of tree physiology and the effects of climate, fire, pollutants, moisture, nutrients, genetics, insects and diseases on tree and forest health and productivity.
- Ability to identify and measure land areas and conduct spatial analysis.
- Ability to design and implement comprehensive inventories that meet specific objectives using appropriate sampling methods and units of measurement.
- Ability to analyze inventory data and project future forest, stand, and tree conditions.
- Ability to develop and apply silvicultural prescriptions appropriate to management objectives, including methods of establishing and influencing the composition, growth, and quality of forests, and understand the impacts of those prescriptions.
- Ability to analyze the economic, environmental, and social consequences of forest resource management strategies and decisions.
- Ability to develop management plans with specific multiple objectives and constraints.
- Understanding of the valuation procedures, market forces, processing systems, transportation and harvesting activities that translate human demands for timber-based and other consumable forest products into the availability of those products.
- Understanding of the valuation procedures, market, and non-market forces that avail humans the opportunities to enjoy non-consumptive products and services of forests.
- Understanding of the administration, ownership, and organization of forest management enterprises.
- Understanding of forest policy and the processes by which it is developed.
- Understanding of how federal, state, and local laws and regulations govern the practice of forestry.

- Understanding of professional ethics, including the Society of American Foresters Code, and recognition of the responsibility to adhere to ethical standards in forestry decision making on behalf of clients and the public.
- Ability to understand the integration of technical, financial, human resources, and legal aspects of public and private enterprises.

## **BACHELOR OF SCIENCE IN LANDSCAPE ARCHITECTURE (BSLA)**

Upon graduation students will have attained the following knowledge bases and career competency skills.

- The competencies required for entry level positions in the profession of landscape architecture.
- Critical and creative design thinking and the ability to understand, apply and communicate the subject matter of the professional curriculum
- Application of a design process including project definition, problem identification, information collection, analysis, synthesis, conceptualization and implementation.

## **BACHELOR OF SCIENCE IN RECREATION (BSR)**

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Ability in preparing, and delivering effective oral presentations.
- A proficiency in English composition, technical/business writing, and writing for non-professional audiences.
- Ability to read with comprehension a variety of documents, and critically evaluate opposing viewpoints.
- Understanding of the components, patterns, and processes of biological and ecological systems across spatial and temporal scales,
- Understanding of molecular biology, cells, organisms, populations, species, communities, and ecosystems.
- Understanding of physical and chemical properties, measurements, structure, and states of matter.
- Ability to understand and use the basic approaches and applications of mathematics and statistics for analysis and problem solving.
- Understanding of, and an ability to address, moral and ethical questions and an ability to use critical reasoning skills.
- Understanding of human behavior and social and economic structures, processes, and institutions of importance across a broad range of societies.
- Understanding of the diverse dimensions of the human experience and culture.
- Knowledge of the elements of botany, zoology, entomology, plant pathology, plant physiology, and genetics essential to an understanding of higher-order ecological processes.
- Understanding of taxonomy and systematics and ability to identify dominant and/or ecologically significant components of the flora and fauna of ecosystems at regional to continental scales.
- Knowledge of the important life history characteristics of dominant and special-concern species.
- Knowledge of soil properties and processes, hydrology, water quality, and watershed functions.
- Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling.
- Understanding of the effects of climate, fire, pollutants, moisture, nutrients, insects and diseases, and other environmental factors on ecosystem health and functioning at local and landscape scales.
- Ability to identify, measure, and map land areas and conduct spatial analyses.
- Ability to design and implement accurate inventories and assessments of dominant or critical ecosystem components and services, ecosystem properties, and indicators of ecosystem health, including trees and other vegetation, vertebrate fauna, biodiversity, soil and water resources, timber, and recreational opportunities.
- Ability to summarize and statistically analyze inventory and assessment data, evaluate the status of important ecosystem components, describe and interpret interactions and relationships, and project future ecosystem conditions.
- Understanding of the valuation procedures, including market and nonmarket forces that apply to ecosystem goods and services such as timber, water, recreational opportunities, carbon and nutrient cycling, and plant and animal biodiversity.
- Ability to explain the relationships between demand, costs of production, and availability of those goods and services.
- Ability to describe procedures for measuring stakeholder values and managing conflicts in the evaluation and establishment of management objectives.
- Ability to evaluate and understand the economic, ecological, and social trade-offs of alternative land uses and ecosystem management decisions at local, regional, and global scales.
- Knowledge and understanding of environmental policy as applied to ecosystems and the processes by which it is developed.
- Ability to develop and apply prescriptions for manipulating the composition, structure, and function of ecosystems to achieve management objectives, and understand the impacts of those prescriptions at local and landscape scales.
- Ability to identify and control or mitigate specific threats to ecosystems such as insects, diseases, fire, pollutant stressors, and invasive plants or animals.
- Knowledge of the methods and procedures unique to the production of ecosystem goods and services such as timber, recreation, water, and wildlife populations.
- Ability to describe the process of adaptive management and its application to the management of ecosystems.

- Understanding of how federal, state, and local laws and regulations apply to management practice.
- Ability to develop management plans with specific objectives and constraints that are responsive to ownership or stakeholder goals and demonstrate clear and feasible linkages between current condition and desired future condition.
- Understanding of professional ethics, including the Society of American Foresters Code, and recognition of the responsibility to adhere to ethical standards in the practice of ecosystem management on behalf of clients and the public.
- Ability to integrate the knowledge, understanding, and skills from prior coursework in the development of collaborative solutions to realistic management problems.

## **BACHELOR OF MULTIDISCIPLINARY STUDIES (BMDS)**

Upon graduation, students will have attained the following knowledge bases and career competency skills:

- Knowledge of and aptitude with principles, practices, facts, concepts, theories and tools in three minor areas
- The ability to write and present information
- The ability to analyze problems from different perspectives, recognize uncertainties, propose options, construct predictions, and make sound decisions using appropriate information resources and analytical tools

## **Admission**

The general high school credit requirements for admission into the Davis College are the same as those required by the University.

All students are admitted directly to the College and are assigned a faculty advisor.

## **Minors**

There are a wide variety of approved minors in the Davis College. Minors can be combined with major fields to broaden or further focus the student's academic studies. In addition, three minors can be combined in a Multidisciplinary Studies (MDS) major. You can earn an MDS degree in the Davis College or in other WVU colleges. The Davis College minors include:

- Agribusiness Management
- Agriculture and Natural Resources Law
- Applied and Environmental Microbiology
- Arboriculture
- Conservation Ecology
- Environmental Economics
- Environmental Protection
- Equine Studies
- Fashion Merchandising
- Food Science and Technology
- Food Service Production
- Forestry Resource Management
- Horticulture
- Landscape Studies
- Nutrition and Food Studies
- Pest Management
- Recreation, Parks, and Tourism Resources
- Rural Community Development
- Soil Science
- Sustainable Design
- Sustainable Low-Rise Residential Construction
- Wildlife and Fisheries Resources
- Wood Science and Technology