Forest Resources Science

Degree Offered

- Doctor of Philosophy with a major in Forest Resources Science

AREAS OF EMPHASIS OFFERED

- Forest Resource Management
- Recreation, Parks, and Tourism Resources
- Wildlife and Fisheries Resources
- Wood Science and Technology

The Division of Forestry and Natural Resources also offers a program option leading to the degree of doctor of philosophy in forest resources science. Students who choose this option have the opportunity to choose one of the following as their major field of study: forest resources management; recreation, parks, and tourism resources; wood science and technology, or wildlife and fisheries resources. Within these major fields of study, specialization is limited only by the range of competencies in the graduate faculty.

Admissions

A student seeking admission to work toward the degree of doctor of philosophy in forest resources science in the Davis College of Agriculture, Natural Resources, and Design may choose as the major field of study forest resources management; recreation, parks, and tourism resources; wood science and technology; or wildlife and fisheries resources. Within these major fields of study, specialization is limited only by the range of competencies in the graduate faculty.

A candidate for the Ph.D. degree in Forest Resources Science must meet all University, College, Division, and Program requirements as outlined in the WVU Graduate catalog.

Program Requirements

All Ph.D. degree candidates are required to follow a planned program of study. The student develops the plan of study during their first year in the program in conjunction with the graduate committee. The plan must be approved by the Director of the Division and the Associate Dean for Academic Affairs of the Davis College.

A minimum cumulative GPA of 3.0 is required in all courses applied toward degree requirements.

Course Requirements as determined by the Plan of Study

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Curriculum requirements for all Ph.D. candidates include a block of graduate courses in the major field, which will constitute a comprehensive review of the significant knowledge in that field and a block of graduate courses in a minor field of study. A minimum of sixty semester hours beyond the bachelor’s degree and exclusive of the dissertation is required.

DISSERTATION AND FINAL EXAMINATION

The research work for the doctoral dissertation must show a high degree of scholarship and must present an original contribution to the field of forest resources science. In addition to coursework and the dissertation, the candidate is required to pass a qualifying examination and a final examination.

Major Learning Outcomes

FOREST RESOURCES SCIENCE

- Demonstrate mastery of historic and contemporary issues and practices in one of the four emphasis areas (Forest Resource Management; Recreation, Parks and Tourism Resources; Wildlife and Fisheries Resources; or Wood Science and Technology).

- Critique and assess peer-reviewed literature and apply research findings to the resources and management of their emphasis area.

- Conduct and defend independent, original research focused on Forest Resource Management; Recreation, Parks and Tourism Resources; Wildlife and Fisheries Resources; or Wood Science and Technology; that includes project design, collecting, analyzing and interpreting data, publishing results in scientific journals, and presenting results to scientific audiences.
FOREST MANAGEMENT COURSES

FMAN 512. Silvicultural Practices for Hardwood Forest Types. 3 Hours.
PR: FMAN 311. Designing proper silvicultural systems for managing Appalachian hardwood stands; reconstructing stand histories, recognizing problems, and prescribing appropriate silvicultural treatment.

FMAN 523. Advanced Urban Forest Management. 3 Hours.
Introduction to management of tree in developed landscapes (City streets, residential landscapes, parks, and corporate/academic campuses); review of urban forest management; strategies and concepts for urban tree management.

FMAN 540. Current Issues in Forest Management. 3 Hours.
PR: Consent. Analysis of environmental issues in forest management and current controversies surrounding the management of forested lands. Emphasis on traditional and ecosystem-based forest management policy, philosophy, and practices.

FMAN 591. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

FMAN 593A-D. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

FMAN 611. Advanced Forest Ecology. 3 Hours.
PR: FMAN 212 or equivalent; FMAN 311. Ecological relationships in forests with emphasis on biogeochemical cycles.

FMAN 631. Forest Stand Dynamics. 3 Hours.
PR: Undergraduate courses in ecology or silviculture, and statistics. Examination of the processes causing temporal and spatial changes in communities of trees including: stand establishment, growth, competition, disturbance and mortality. Labs focus on the quantification of stand development patterns.

FMAN 640. Advanced Forest Biometrics. 3 Hours.
PR: FMAN 222 and STAT 511. Review and application of mathematical and statistical models used in forest volume, taper and height estimation procedures.

FMAN 641. Forest Growth a Yield Modeling. 3 Hours.
PR: FMAN 640 Review and application of mathematical and statistical models used in forest growth and yield modeling.

FMAN 644. Forest Growth and Yield Modeling. 3 Hours.
PR: FMAN 640. Review and application of mathematical and statistical models used in forest growth and yield modeling.

FMAN 650. Forest Valuation and Investment. 3 Hours.
Asset valuation concepts, with special emphasis on forests. Financial analyses of forest operations. Concepts and strategies in forestland investment and portfolio management.

FMAN 694A-Z. Seminar. 1-6 Hours.
Seminars arranged for advanced graduate students.

FMAN 695. Independent Study. 1-6 Hours.
Faculty-supervised study of topics not available through regular course offerings.

FMAN 697. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.).

FMAN 790. Teaching Practicum. 1-3 Hours.
PR: Consent. Supervised practice in college teaching of forest management. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It will also present a mechanism for students not on assistantships to gain teaching experience. (Grading will be S/U.).

FMAN 791. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

FMAN 792A. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

FMAN 793. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

FMAN 794. Seminar. 1-6 Hours.
Special seminars arranged for advanced graduate students.

FMAN 795. Independent Study. 1-9 Hours.
Faculty supervised study of topics not available through regular course offerings.

FMAN 796. Graduate Seminar. 1 Hour.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.
FMAN 797. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.).

FMAN 798. Thesis or Dissertation. 1-6 Hours.
PR: Consent. This is an optional course for programs that wish to provide formal supervision during the writing of student reports (698), or dissertations (798). Grading is normal.

FMAN 799. Graduate Colloquium. 1-6 Hours.
PR: Consent. For graduate students not seeking coursework credit but who wish to meet residency requirements, use of the University’s facilities, and participate in its academic and cultural programs. Note: Graduate students who are not actively involved in coursework or research are entitled, through enrollment in their department’s 699/799 Graduate Colloquium to consult with graduate faculty, participate in both formal and informal academic activities sponsored by their program, and retain all of the rights and privileges of duly enrolled students. Grading is S/U; colloquium credit may not be counted against credit requirements for masters programs. Registration for one credit of 699/799 graduate colloquium satisfies the University requirement of registration in the semester in which graduation occurs.

FORESTRY COURSES

FOR 525. Vegetation of West Virginia. 3 Hours.
PR: FOR 205. Basics of plant taxonomy and community ecology, use of technical field keys, study of selected plant families, field trips to unusual and/or important plant communities and forest types in West Virginia.

FOR 575. Forest Soils: Ecology and Management. 3 Hours.
PR: AGRN 410 or AGRN 425 or consent. Properties, nutrient cycling processes, and sustainable management of forest soils, with examples from the most important wood fiber producing regions of the U.S.: the southeast, Pacific Northwest, and the central hardwood forest.

FOR 590. Teaching Practicum. 1-3 Hours.
PR: Consent. Supervised practice in college teaching of forestry. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It will also present a mechanism for students not on assistantships to gain teaching experience. (Grading will be S/U.).

FOR 591A-Z. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

FOR 592. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

FOR 593A-B. Special Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

FOR 594. Seminar. 1-6 Hours.
Special seminars arranged for advanced graduate students.

FOR 595. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

FOR 650. Economics, Environment and Education in West Virginia. 3 Hours.
This course is designed for K-12 classroom teachers with little previous background in economics. We introduce the principles of economics using the WV forest products industry to provide examples.

FOR 670. Human Dimensions of Natural Resource Management. 3 Hours.
PR: Grad standing. This course applies social science theory and methods to solving natural resource management problems.

FOR 691A-Z. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

FOR 693A-Z. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

FOR 696. Graduate Seminar. 1 Hour.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.

FOR 697. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.).

FOR 698. Thesis or Dissertation. 1-6 Hours.
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FOR 699. Graduate Colloquium. 1-6 Hours.
PR: Consent. For graduate students not seeking coursework credit but who wish to meet residency requirements, use of the University's facilities, and participate in its academic and cultural programs. Note: Graduate students who are not actively involved in coursework or research are entitled, through enrollment in their department's 699/799 Graduate Colloquium to consult with graduate faculty, participate in both formal and informal academic activities sponsored by their program, and retain all of the rights and privileges of duly enrolled students. Grading is S/U; colloquium credit may not be counted against credit requirements for masters programs. Registration for one credit of 699/799 graduate colloquium satisfies the University requirement of registration in the semester in which graduation occurs.

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