

# WOOD SCIENCE AND TECHNOLOGY



## ADVISING PACKET

2008 – 2009

### WOOD SCIENCE AND TECHNOLOGY ADVISORS

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# WOOD SCIENCE AND TECHNOLOGY ADVISING PACKET

This *Advising Packet* was assembled by the Wood Science faculty to help students better understand the program, its degree requirements, and some of the particulars of scheduling courses. It contains information that you will need to help you through the maze of scheduling decisions that you will encounter in your student career at WVU.

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# PROGRAM OVERVIEW

## B.S. IN WOOD SCIENCE AND TECHNOLOGY

Wood Science and Technology is a Bachelor of Science degree program in the Division of Forestry in the Davis College of Agriculture, Forestry, and Consumer Sciences. The focus of the Wood Science and Technology curriculum is on the properties and Properties of wood and wood products; as well as the processing, manufacture, and use of wood products.

The curriculum also offers a general education in basic sciences, math, engineering, communications, business, and forestry. Success in this curriculum requires reasonable proficiency in communication skills, science and math.



The **Professional Area of Emphasis in Wood Processing (based upon a University-approved minor of previous major)** provides flexibility within the context of a fundamental wood science curriculum. Potential careers include, but are not limited to production of wood products, including primary products, architectural woodwork, furniture and cabinets, and composite materials; marketing wood products; design of wood-based building components, and research.

The **Professional Area of Emphasis in Forest Utilization** prepares graduates for careers in timber management and sale administration, forest engineering, primary processing of wood products, and timber procurement.

There are approximately 30-35 undergraduate students enrolled in the program. Our program is one of the largest of its kind in the United States, which makes it appealing to industry recruiters. Class sizes in Wood Science and Technology are small (12-18), allowing faculty to give personal attention to students.

There are currently five faculty in Wood Science and Technology who have teaching responsibilities in the Wood Science and Technology program. Students are advised by a member of the faculty.

The Wood Science program is accredited by the Society of Wood Science and Technology (SWST).

The program was named a “Program of Excellence” by the West Virginia University System Board of Trustees in 1996 and 2001.

*“We may use wood with intelligence only if we understand wood.”  
- Frank Lloyd Wright*

## CAREERS IN WOOD SCIENCE AND TECHNOLOGY

The wood products industry employs an estimated 1.6 million people nationwide. Yet only 21 American universities provide programs specifically designed to educate professionals to manage and provide technical expertise to the industry. West Virginia University is one of them. The unique nature of the program and the large base of potential employers result in an excellent job market for Wood Science and Technology graduates.

It is difficult to describe what people with our degree do. There are so many different companies making so many different types of products that career opportunities are quite diverse. The jobs span the spectrum from standing timber through manufacture of products to their marketing, distribution, and end use.

Our graduates work as timber procurement foresters, buying timber and planning harvesting operations in accordance with sound forest management and environmental practices. They work in sawmills as production managers. They are quality assurance managers, production supervisors, and process engineers for companies that manufacture furniture, cabinets, and state-of-the-art engineered wood products. They are product designers and estimators. They purchase and sell materials and services. Some of our graduates go on to graduate school in wood science or related disciplines, including forestry, business administration, and engineering.



They work in all parts of the nation and in both rural and urban communities. Yet approximately half find employment in West Virginia with companies such as Allegheny Wood Products, American Woodmark, Burke-Parsons-Bowlby, Coastal Lumber Company, Cranberry Lumber Company, Jeld-Wen, Georgia-Pacific, Jim C. Hamer Lumber Company, Koppers Industries, Mead Westvaco, and Weyerhaeuser.

The placement rate for Wood Science and Technology graduates is approximately 85 percent. This figure represents the percentage of all graduates from 1990 to 2005 who we know were employed in the wood products industry after graduating. Approximately half have found employment in West Virginia.

Average entry-level salaries for Wood Science and Technology graduates are the highest among Division of Forestry programs ranging from \$40,000 to as high as \$48,000. Higher salaries tend to be in the production management and marketing end of the business.

Excellent summer and part-time employment opportunities exist for Wood Science and Technology students, including internship opportunities with the forest products industry.

## WOOD SCIENCE AND TECHNOLOGY CURRICULUM

**PROFESSIONAL AREAS OF EMPHASIS:** Students choose a professional area of emphasis, consisting of 40 hours of course work, to supplement 88 hours of core curriculum in wood science and technology. (1) Students may choose a specialized "wood processing" area of emphasis consisting of a University-approved minor plus a core of 16 hours of specialized wood science courses and restricted electives. Students transferring into wood science and technology from a related discipline may use the previous major instead of a minor as the area of emphasis provided the student has passed at least 15 semester hours of core course work from the previous discipline as indicated by a common course prefix (i.e., FMAN) with a "C" grade or better, and has received approval from the wood science and technology faculty. (2) Students may also choose a specialized "forest utilization" area of emphasis consisting of 40 hours of forestry, wood science, restricted electives, and related courses. The forest utilization area of professional emphasis prepares graduates for careers in timber harvesting, forest engineering, primary processing of wood products, and timber procurement.

### CURRICULUM REQUIREMENTS (CORE COURSES)

	<u>Hrs</u>
FOR 101, <i>Professional Orientation</i> or equivalent <sup>(1)</sup>	1
ENGL 101, <i>Composition and Rhetoric</i>	3
ENGL 102, <i>Composition and Rhetoric</i>	3
BIOL 101 and 103, <i>Biology</i> , or equivalent <sup>(2)</sup>	4
CHEM 111 or CHEM 115, <i>Chemistry</i>	4
MATH 150, <i>Introduction to Calculus</i>	3
PHYS 101, <i>Introductory Physics</i>	4
STAT 211, <i>Elementary Statistical Inference</i>	3
FOR 203, <i>Careers in Natural Resources 2</i>	1
FOR 205, <i>Dendrology</i>	3
FOR 240, <i>Computer Applications for Natural Resources</i>	3
FOR 438, <i>Human Dimensions of Natural Resource Management</i>	3
FMAN 222, <i>Forest Mensuration</i>	4
ECON 201, <i>Principles of Economics</i> (counts as either GEC 4 or 8)	3
ECON 202, <i>Principles of Economics</i> (counts as either GEC 5 or 6)	3
WDSC 100, <i>Forest Resources in U.S. History</i> , or equivalent <sup>(3)</sup>	3
GEC Objective 4 <u>or</u> 8 Elective (Contemporary Society/Western Culture)	3
GEC Objective 5 <u>or</u> 6 Elective (Artistic Expression/Individual in Society)	3
GEC Objective 7 Elective (American Culture)	3
GEC Objective 9 Elective (Non-Western Culture)	3
WDSC 223, <i>Wood Anatomy and Structure</i>	3
WDSC 340, <i>Physical Properties of Wood</i>	3
WDSC 341, <i>Wood Mechanics</i>	3
WDSC 413, <i>Wood Chemistry</i>	3
WDSC 232, <i>Timber Procurement and Grading</i>	3
WDSC 362, <i>Forest Products Decision-Making</i>	4
WDSC 422, <i>Forest Products Harvesting</i>	3
WDSC 465, <i>Wood-Based Composite Materials</i>	4
WDSC 494, <i>Seminar</i>	1

## PROFESSIONAL AREAS OF EMPHASIS

### AREA OF EMPHASIS IN WOOD PROCESSING

	<u>Hrs</u>
WDSC 330, <i>Wood Machining</i>	3
WDSC 351, <i>Forest Products Protection</i>	3
WDSC 337, <i>Wood Adhesion and Finishing</i>	3
WDSC 460, <i>Plant Layout for Wood Industries</i> <sup>(4)</sup>	3
WDSC 491, <i>Professional Field Experience</i>	3
University-approved Minor <b>or</b> at least 15 hours of core courses in an approved discipline <sup>(5)</sup>	15
Restricted electives <sup>(6)</sup>	11

### AREA OF EMPHASIS IN FOREST UTILIZATION

	<u>Hrs</u>
CE 200, <i>Land Surveying</i>	3
FOR 326, <i>Remote Sensing of the Environment</i>	2
FHYD 444, <i>Forest Hydrology</i>	3
FMAN 212, <i>Forest Ecology</i>	3
FMAN 311, <i>Silvicultural Systems</i>	4
FMAN 433, <i>Forest Management</i>	3
WDSC 423, <i>Forest Roads</i> <sup>(4)</sup>	4
WDSC 491, <i>Professional Field Experience</i>	3
WMAN 234, <i>Forest Wildlife Management</i>	3
Writing (“W”) course	3
Restricted electives <sup>(6)</sup>	10

- (1) Students who transfer into wood science and technology and have completed the UNIV 101 or equivalent prior to transferring do not have to take FOR 101.
- (2) Students who transfer into wood science and technology and have completed 4 hours of general plant and cellular biology prior to transferring do not have to take the BIOL 101 and 103.
- (3) Students who transfer into wood science and technology and have completed the GEC Objective 3 prior to transferring do not have to take WDSC 100. More information on the General Education Curriculum may be found at <http://www.arc.wvu.edu/courses/GEC.html>.
- (4) Capstone course.
- (5) For advanced students transferring into WS&T from a related major. To qualify, the area of emphasis must:
  - a. Include a core consisting of at least 15 semester hours of course work from the student’s previous major,
  - b. Must all be from a single discipline as indicated by the course prefix (i.e., FMAN),
  - c. Must have been passed with a “C” grade or better, and
  - d. Must be approved by the Wood Science & Technology faculty.
- (6) Restricted electives must contribute to the student’s professional development and must be approved by the student’s advisor.

**WOOD SCIENCE AND TECHNOLOGY**  
**WOOD PROCESSING AREA OF EMPHASIS**  
CHECKLIST OF REQUIRED COURSES/SAMPLE SCHEDULE

FALL SEMESTER, FRESHMAN YEAR		SPRING SEMESTER, FRESHMAN YEAR	
FOR 101, <i>Prof. Orientation</i> or equiv. (1)		BIOL 101, <i>Biology</i> or equiv. (3)	
ENGL 101, <i>Composition and Rhetoric</i> (3)		BIOL 103, <i>Biology</i> or equiv. (1)	
FOR 205, <i>Dendrology</i> (3)		FOR 240, <i>Comp. App. for Nat. Res.</i> (3)	
WDSC 223, <i>Wood Anat. and Structure</i> (3)		MATH 150, <i>Intro. to Calculus</i> (3)	
GEC Elective (3)		GEC Elective (3)	
		GEC Elective (3)	

FALL SEMESTER, SOPHOMORE YEAR		SPRING SEMESTER, SOPHOMORE YEAR	
ENGL 102, <i>Composition and Rhetoric</i> (3)		WDSC 232, <i>Timber Procur. &amp; Grading</i> (3)	
STAT 211, <i>Elem. Statistical Inference</i> (3)		FMAN 222, <i>Forest Mensuration</i> (4)	
FOR 203, <i>Careers in Natural Res.</i> 2 (1)		PHYS 101, <i>Introductory Physics</i> (4)	
ECON 201, <i>Principles of Economics</i> (3)		ECON 202, <i>Principles of Economics</i> (3)	
CHEM 111 or CHEM 115, <i>Chemistry</i> (4)		WDSC 100, <i>For. Res. in U.S. History</i> (3)	
GEC Elective (3)			

FALL SEMESTER, JUNIOR YEAR		SPRING SEMESTER, JUNIOR YEAR	
WDSC 341, <i>Wood Mechanics</i> (3)		WDSC 340, <i>Physical Prop. of Wood</i> (3)	
WDSC 330, <i>Wood Machining</i> (3 – alt. yr.)		WDSC 351, <i>For. Prod. Protec.</i> (3 – alt. yr.)	
WDSC 337, <i>Wood Adhesion &amp; Finishing</i> (3)		WDSC 465, <i>Wood-Based Comp. Mat.</i> (4)	
WDSC 422, <i>Forest Products Harvesting</i> (3)		Minor requirement (3)	
WDSC 413, <i>Wood Chemistry</i> (3)		Restricted elective (3)	
Minor requirement (3)			

SUMMER OFF-CAMPUS COURSE	
WDSC 491, <i>Professional Field Exper.</i> (3)	

FALL SEMESTER, SENIOR YEAR		SPRING SEMESTER, SENIOR YEAR	
WDSC 362, <i>For. Prod. Decision-Making</i> (4)		WDSC 460, <i>Plant Layout for Wood Ind.</i> (3)	
WDSC 494, <i>Seminar</i> (1)		Minor requirement (3)	
FOR 438, <i>Human Dimensions</i> (3)		Minor requirement (3)	
Minor requirement (3)		Restricted elective (3)	
Restricted elective (3)		Restricted elective (2)	

**WOOD SCIENCE AND TECHNOLOGY**  
**FOREST UTILIZATION AREA OF EMPHASIS**  
CHECKLIST OF REQUIRED COURSES/SAMPLE SCHEDULE

FALL SEMESTER, FRESHMAN YEAR		SPRING SEMESTER, FRESHMAN YEAR	
FOR 101, <i>Prof. Orientation</i> or equiv. (1)		BIOL 101, <i>Biology</i> or equiv. (3)	
ENGL 101, <i>Composition and Rhetoric</i> (3)		BIOL 103, <i>Biology</i> or equiv. (1)	
FOR 205, <i>Dendrology</i> (3)		FOR 240, <i>Comp. App. for Nat. Res.</i> (3)	
WDSC 223, <i>Wood Anat. and Structure</i> (3)		MATH 150, <i>Intro. to Calculus</i> (3)	
GEC Elective (3)		GEC Elective (3)	
		GEC Elective (3)	

FALL SEMESTER, SOPHOMORE YEAR		SPRING SEMESTER, SOPHOMORE YEAR	
ENGL 102, <i>Composition and Rhetoric</i> (3)		WDSC 232, <i>Timber Procur. &amp; Grading</i> (3)	
STAT 211, <i>Elem. Statistical Inference</i> (3)		FMAN 212, <i>Forest Ecology</i> (3)	
FOR 203, <i>Careers in Natural Res.</i> 2 (1)		PHYS 101, <i>Introductory Physics</i> (4)	
ECON 201, <i>Principles of Economics</i> (3)		ECON 202, <i>Principles of Economics</i> (3)	
CHEM 111 or CHEM 115, <i>Chemistry</i> (4)		FMAN 222, <i>Forest Mensuration</i> (4)	
WDSC 100, <i>For. Res. in U.S. History</i> (3)			

FALL SEMESTER, JUNIOR YEAR		SPRING SEMESTER, JUNIOR YEAR	
WDSC 341, <i>Wood Mechanics</i> (3)		WDSC 340, <i>Physical Prop. of Wood</i> (3)	
CE 200, <i>Land Surveying</i> (3)		FHYD 444, <i>Forest Hydrology</i> (3)	
FMAN 311, <i>Silvicultural Systems</i> (3)		WMAN 234, <i>Forest Wildlife Mgmt.</i> (3)	
WDSC 422, <i>Forest Products Harvesting</i> (3)		FOR 326, <i>Remote Sensing</i> (2)	
WDSC 413, <i>Wood Chemistry</i> (3)		GEC Elective (3)	
		Writing ("W") course (3)	

SUMMER OFF-CAMPUS COURSE	
WDSC 491, <i>Professional Field Exper.</i> (3)	

FALL SEMESTER, SENIOR YEAR		SPRING SEMESTER, SENIOR YEAR	
WDSC 362, <i>For. Prod. Decision-Making</i> (4)		WDSC 423, <i>Forest Roads</i> (4)	
WDSC 494, <i>Seminar</i> (1)		WDSC 465, <i>Wood-Based Comp. Mat.</i> (4)	
FOR 438, <i>Human Dimensions</i> (3)		Restricted elective (3)	
FMAN 433, <i>Forest Management</i> (4)		Restricted elective (4)	
Restricted elective (3)			

## SURVIVAL GUIDE FOR WOOD SCIENCE STUDENTS

**YOUR ADVISOR:** Each student is assigned a faculty advisor. Your faculty advisor is responsible for helping you plan your curriculum and prepare schedules. Your advisor will also answer your questions on academic and career issues. Your advisor is also responsible to the University by ensuring that students meet the requirements set forth for the degree.

**YOUR RESPONSIBILITY:** It is your responsibility to learn what is expected and to meet those degree requirements. Advisors and professors can help you achieve your educational goals but probably won't be able to bail you out of problems of your own making.

**HOW TO DEAL WITH YOUR PROFESSORS:** Your professors, including your faculty advisor, are here to help you develop the skills and knowledge you will require in your professional career. However, keep in mind that they are like everyone else in that they expect to be treated with courtesy and respect. In addition, if they ask you to do something, it is for a reason; namely what they ask is, in their professional opinion, in your best interest.

**PLAN AHEAD.** You are expected to prepare a tentative schedule for all semesters until graduation. This will help you get through the degree requirements with as few problems as possible. Your advisor will help you get started with this task. Sample schedules are on pages 10 and 11 and a blank schedule is on page 12. Use the required course checklists on pages 8 and 9 to help in your planning. It is your responsibility to revise and update your tentative schedule each semester. **Be sure to bring your tentative schedule with you when meeting with your advisor.**

**SCHEDULE CONFLICTS** are a fact of life at WVU. Your advisor can suggest some creative ways to minimize the problems caused by these venerable old traditions. Drop by and ask.

**DOC ARMSTRONG'S E-MAIL LIST** is a quick and easy way for faculty to send messages out to students concerning job and internship opportunities, course and scheduling news, items of interest about the program, FPS announcements, important and not so important information, etc. To be put on the list, please send an e-mail to <jarmstro@wvu.edu> and ask to be put on the e-mail list.

**FOREST PRODUCTS SOCIETY:** The WVU student chapter of the Forest Products Society (FPS) is the professional organization for the Wood Science and Technology program. Our chapter is part of a larger organization. FPS is an international society of professionals in the wood products industry, government agencies, and universities. The FPS chapter conducts a variety of professional and social activities throughout the year. It is a great way to get to know your classmates. The WVU Student Chapter of the Forest Products Society has a web site: [http://www.forestry.caf.wvu.edu/wvu\\_woodscience/students.htm](http://www.forestry.caf.wvu.edu/wvu_woodscience/students.htm).

**TAKE MATH EARLY.** MATH 150 should be completed early in a student's career. Too many students wind up delaying their graduation to complete the math requirement. If you have problems with math, talk to your advisor for recommendations on how to get help.

**WDSC 330, WOOD MACHINING** is offered only in even numbered years (2008, 2010, etc.). Please be sure to take this into account when planning your schedule.

WDSC 351, *FOREST PRODUCTS PROTECTION* is offered only in even numbered years (2008, 2010, etc.). Please be sure to take this into account when planning your schedule.

**GENERAL EDUCATION CURRICULUM (GEC) REQUIREMENTS:** Students must complete the University-wide GEC requirements. You are expected to read and understand the University requirements for the GEC: <http://www.arc.wvu.edu/courses/GECdetails.html>. A current list of approved GEC electives may be found at <http://www.arc.wvu.edu/courses/GEC.html>. If you do not understand these requirements, it is your responsibility to ask your faculty advisor.

**UNIVERSITY CATALOG ON LINE:** <http://coursecatalog.wvu.edu/>.

**WVU MINORS:**

<http://www.wvu.edu/%7Eacadaff/acad/minors/minors.htm>.

**RESTRICTED ELECTIVES** must contribute to the student's professional development and must be approved by the student's advisor.

**PREREQUISITES:** The following prerequisites for required Wood Science Courses are enforced. Be sure to plan your schedule accordingly.

WDSC 223: FOR 205 (may be taken concurrently)

WDSC 337: WDSC 341

WDSC 340: WDSC 223

WDSC 341: WDSC 223, MATH 150 and PHYS 101

WDSC 351: WDSC 223

WDSC 422: MATH 128 and WDSC 232

WDSC 423: CE 200 and FOR 240

WDSC 465: WDSC 232, WDSC 340 and WDSC 341

Forest Utilization students must be aware of the prerequisites for their FMAN requirements. The FMAN faculty enforces their prerequisites. It is essential that students plan their schedule to follow the required sequence of courses.

FMAN 212: FOR 205

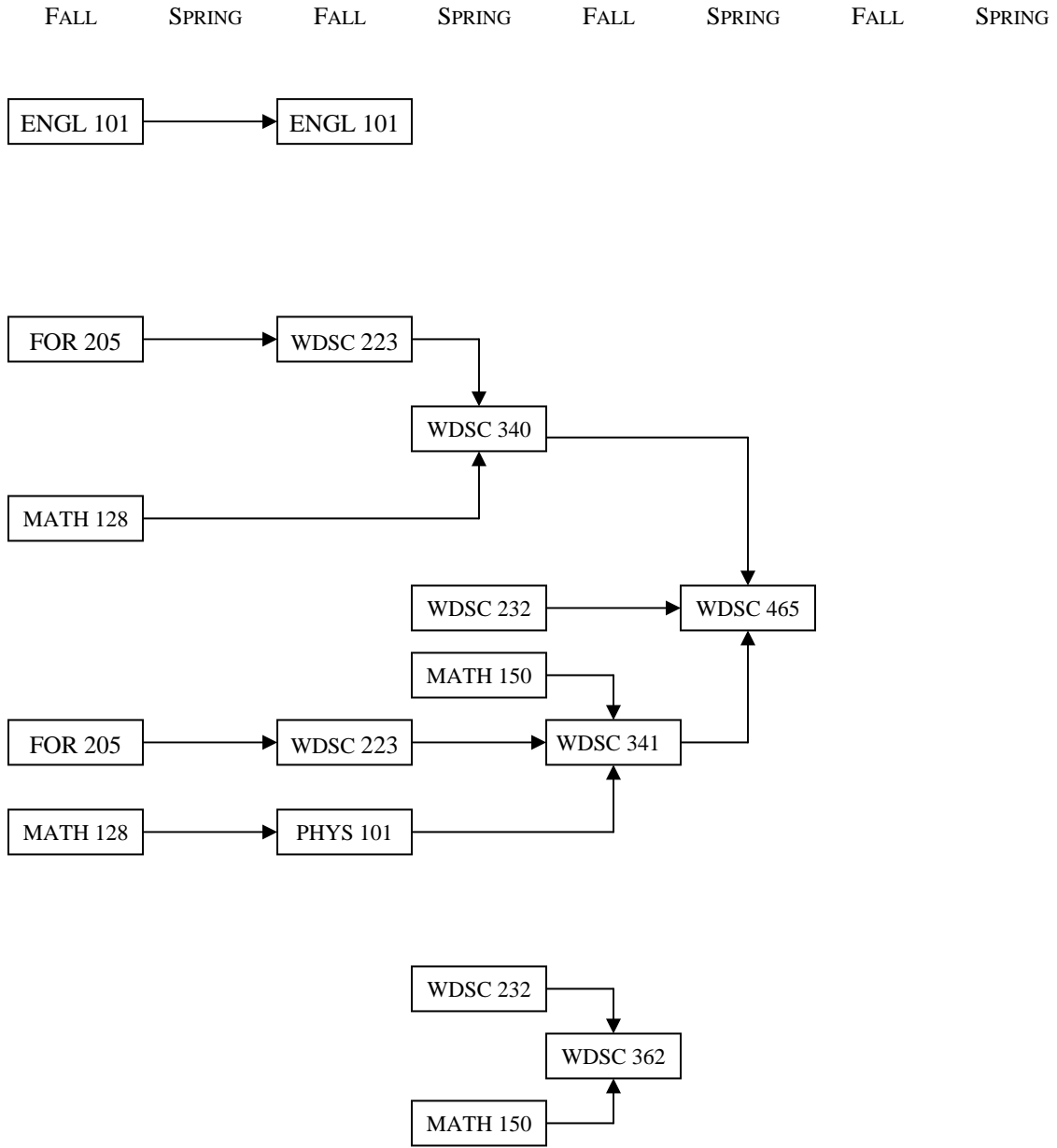
FMAN 222: MATH 150 and STAT 211

FMAN 311: FMAN 212 and FMAN 222

FMAN 433: FMAN 311, MATH 150, (Forestry Summer Camp prerequisite is waived for Wood Science and Technology students)

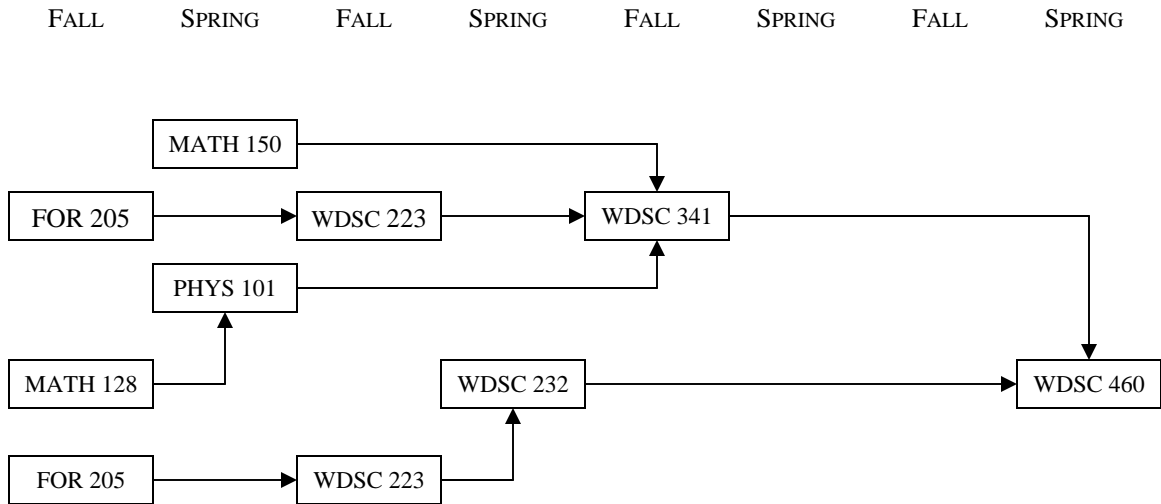
# PREREQUISITE SEQUENCES

## CORE REQUIREMENTS IN WOOD SCIENCE AND TECHNOLOGY

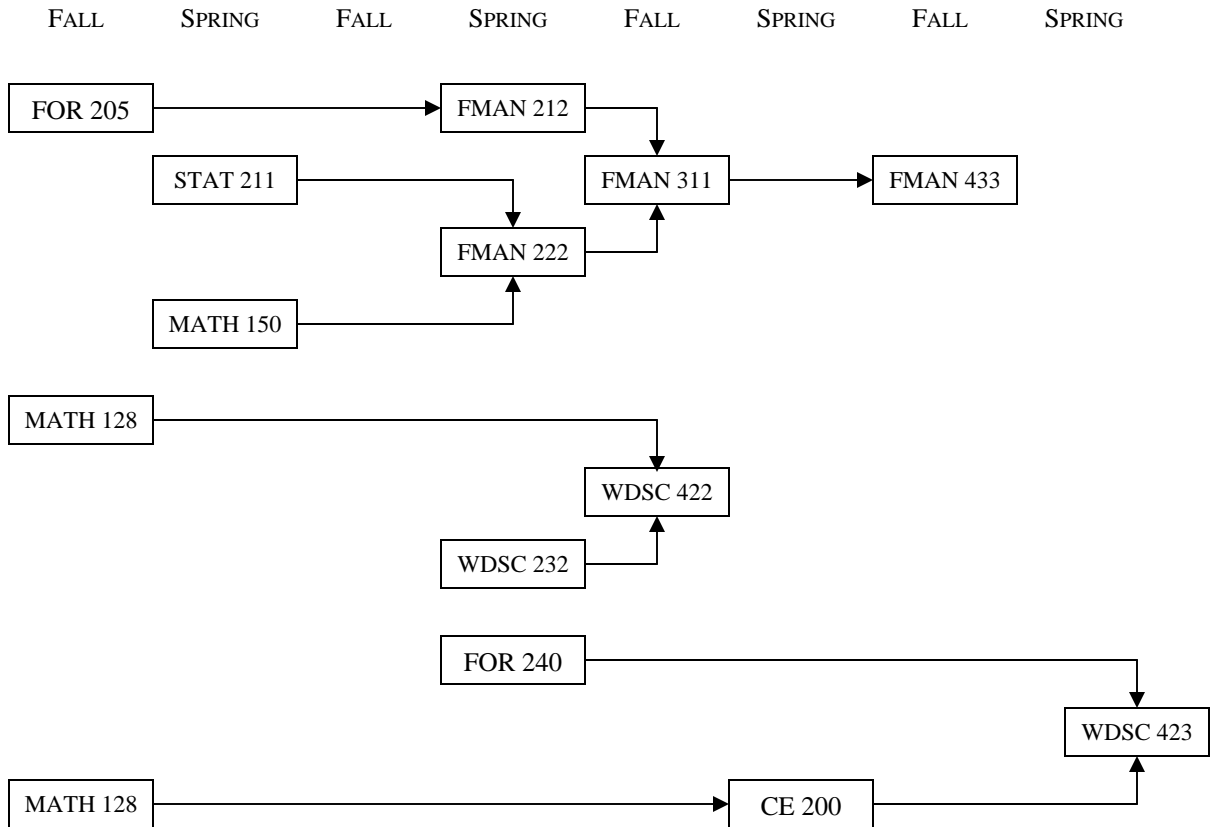


\* Required for students who first enrolled at WVU prior to Fall Semester 2005.

**REQUIREMENTS IN THE WOOD PROCESSING (MINORS-BASED) AREA OF EMPHASIS**



**REQUIREMENTS IN THE FOREST UTILIZATION AREA OF EMPHASIS**



# MINOR IN WOOD SCIENCE AND TECHNOLOGY

## REQUIREMENTS TO COMPLETE AN ACADEMIC MINOR IN WOOD SCIENCE AND TECHNOLOGY

Students must complete 18 credit hours in Wood Science courses, including:

WDSC 223, *Wood Anatomy and Structure*  
WDSC 340, *Physical Properties of Wood*, and  
WDSC 341, *Mechanical Properties of Wood*

The remaining nine hours may be selected from:

WDSC 232, *Timber Procurement and Grading*  
WDSC 413, *Wood Chemistry*  
WDSC 422, *Harvesting Forest Products*  
WDSC 423, *Forest Roads*  
WDSC 330, *Wood Machining*  
WDSC 337, *Wood Adhesion and Finishing*  
WDSC 351, *Forest Products Protection*  
WDSC 362, *Forest Products Decision-Making*  
WDSC 465, *Wood-Based Composite Materials*



## WHO SHOULD CONSIDER MINORING IN WOOD SCIENCE AND TECHNOLOGY?

Employment opportunities for those with a specialized degree such as the BS in Wood Science and Technology are outstanding. The wood products industry also seeks employees with backgrounds in forest management, business and economics, engineering, and other fields. Individuals with these backgrounds bring skills and specialized knowledge that the industry requires. However, only a very few of these individuals possess specific knowledge about the properties of wood, and manufacturing processes for wood-based materials. The minor allows those students to acquire a fundamental background in Wood Science and Technology that will appear on their WVU transcript.

Graduates of other degree programs on campus, including civil and environmental engineering, interior design, and landscape architecture may not work in the wood products industry, but will be required to use wood in design of furniture, buildings, and various structures. A sound fundamental knowledge of wood and wood products would be useful to these professions.

## PRE-APPROVED RESTRICTED ELECTIVES

Restricted electives are those credit hours that are not specified as required courses but are necessary to meet the program's requirements to graduate. Your advisor must approve restricted electives before you register for the course. A restricted elective must contribute directly to your professional development to merit approval. You may not “double count” a required course or LSP/GEC elective as a restricted elective.

Courses listed below have been pre-approved by the Wood Science and Technology faculty and do not need your advisor's approval. This list is based on courses offered during the Spring and Fall Semesters of 2005. Restricted electives are not limited to the courses on this list. Listing a course as a pre-approved restricted elective does not guarantee your right to enroll in the course. It is your responsibility to make sure that you meet all departmental entrance requirements and prerequisites before enrolling in one of these courses.

ACCT 201, <i>Principles of Accounting</i> (3)	GEOG 111, <i>Environmental Geoscience Lab</i> (1)
ACCT 202, <i>Principles of Accounting</i> (3)	GEOG 205, <i>Natural Resources</i> (3)
ADV 215, <i>Principles of Advertising</i> (3)	GEOG 209, <i>Economic Geography</i> (3)
AGEE 101, <i>Global Food &amp; Agric. Industry</i> (3)	GEOG 240, <i>United States and Canada</i> (3)
AGEE 220, <i>Group Organization &amp; Leadership</i> (3)	GEOG 302, <i>Political Geography</i> (3)
AGEE 250, <i>Shop Theory and Methods</i> (4)	GEOG 350, <i>Intro. Geographic Info. Science</i> (3)
AGEE 421, <i>Agric. &amp; Nat. Res. Comm.</i> (3)	GEOG 411, <i>Rural and Regional Development</i> (3)
AGRN 202, <i>Principles of Soil Sciences</i> (3)	GEOG 415, <i>Environmental Systems Geog.</i> (3)
AGRN 203, <i>Principles of Soil Science Lab</i> (1)	GEOG 452, <i>GIS:Applications</i> (3)
ARE 110, <i>Agribusiness Accounting</i> (3)	GEOL 110, <i>Environmental Geoscience</i> (3)
ARE 150 <i>Intro. Agric. &amp; Agribusiness Econ.</i> (3)	GEOL 111, <i>Environmental Geoscience Lab</i> (1)
ARE 187, <i>Energy Resources</i> (3)	GER 203, <i>Intermediate German 1</i> (3)
ARE 204, <i>Agribusiness Management</i> (3)	GER 204, <i>Intermediate German 2</i> (3)
ARE 220, <i>Envir. &amp; Resource Econ.</i> (3)	GER 301, <i>Advanced German Conversation 1</i> (3)
ARE 293C, <i>SPTP:Entrepreneurship Mgt.</i> (3)	GER 302, <i>Advanced German Conversation 2</i> (3)
ARE 293D, <i>Entrepreneurship Law</i> (3)	GER 361, <i>Commercial German 1</i> (3)
ARE 382, <i>Agri &amp; Natural Resources Law</i> (3)	HIST 277, <i>Revolutions-Science/Technology</i> (3)
ARE 406, <i>Applied Quantitative Methods</i> (3)	ITAL 203, <i>Intermediate Italian 1</i> (3)
ARE 410, <i>Inter. Envir. &amp; Resource Econ.</i> (3)	ITAL 204, <i>Intermediate Italian 2</i> (3)
ARE 411, <i>Rural Economic Development</i> (3)	JAPN 203, <i>Intermediate Japanese 1</i> (3)
ARE 431, <i>Marketing Agricultural Product</i> (3)	JAPN 204, <i>Intermediate Japanese 2</i> (3)
ARE 440, <i>Futures Market &amp; Commodity Price</i> (3)	JAPN 301, <i>Advanced Japanese 1</i> (3)
ARE 450, <i>Agric. &amp; Envir. &amp; Resource Policy</i> (3)	JAPN 302, <i>Advanced Japanese 2</i> (3)
ARE 461, <i>Agribusiness Finance</i> (3)	JAPN 303, <i>Advanced Japanese 3</i> (3)
BIOL 105, <i>Environmental Biology</i> (3)	JAPN 304, <i>Advanced Japanese 4</i> (3)
BIOL 106, <i>Environmental Biology Lab</i> (1)	JRL 101, <i>Intro. to Mass Communication</i> (3)
BUSA 101, <i>Introduction to Business</i> (3)	MATH 156, <i>Calculus 2</i> (4)
BUSA 310, <i>Survey of Business Law</i> (3)	MATH 251, <i>Multivariate Calculus</i> (4)
BUSA 320, <i>Survey of Management</i> (3)	MATH 261, <i>Elem. Differential Equations</i> (4)

BUSA 330, <i>Survey of Marketing</i> (3)	GEOG 106, <i>Physical Geography Laboratory</i> (1)
BUSA 340, <i>Survey of Finance</i> (3)	GEOG 107, <i>Physical Geography</i> (3)
CE 200, <i>Land Surveying</i> (3)	GEOG 108, <i>Human Geography</i> (3)
CHEM 116, <i>Fundamentals of Chemistry</i> (4)	GEOG 110, <i>Environmental Geoscience</i> (3)
CHEM 231, <i>Organic Chemistry: Brief Course</i> (4)	PHIL 170, <i>Intro. to Critical Reasoning</i> (3)
CHEM 341, <i>Physical Chemistry: Brief Course</i> (3)	PHIL 302, <i>Theory of Knowledge</i> (3)
CHEM 342, <i>Experimental Physical Chemistry</i> (1)	PHIL 321, <i>Ethical Theory</i> (3)
COMM 100, <i>Principles Human Communication</i> (1)	PHYS 102, <i>Introductory Physics</i> (4)
COMM 102, <i>Hum. Comm. - Interpers. Context</i> (2)	POLS 260, <i>Intro. International Relations</i> (3)
COMM 103, <i>Presentational Speaking</i> (3)	POLS 338, <i>Environmental Policy</i> (3)
COMM 104, <i>Human Comm. - Public Comm.</i> (2)	PPTH 470, <i>Forest Pest Management</i> (4)
COMM 105, <i>Introduction to the Mass Media</i> (3)	PR 215, <i>Intro. to Public Relations</i> (3)
COMM 112, <i>Small Group Communication</i> (3)	PSYC 101, <i>Introduction to Psychology</i> (3)
ECON 451, <i>International Economics</i> (3)	PSYC 231, <i>Leadership &amp; Human Relations</i> (3)
ECON 455, <i>Economic Development</i> (3)	PSYC 302, <i>Properties Principles</i> (4)
ECON 481, <i>American Economic History</i> (3)	RUSS 203, <i>Intermediate Russian 1</i> (3)
ENGL 304, <i>Business/Professional Writing</i> (3)	RUSS 204, <i>Intermediate Russian 2</i> (3)
ENGL 305, <i>Technical Writing</i> (3)	SAFM 470, <i>Managing Construction Safety</i> (3)
FHYD 444, <i>Forest Hydrology</i> (3)	SOCA 337, <i>Sociology of American Business</i> (3)
ENVP 355, <i>Environmental Sampling/Analysis</i> (3)	SPA 270, <i>Effective Public Speaking</i> (3)
ENVP 460, <i>Environmental Impact Assessment</i> (3)	SPAN 200, <i>Intensive Intermediate Spanish</i> (6)
FMAN 212, <i>Forest Ecology</i> (3)	SPAN 203, <i>Intermediate Spanish 1</i> (3)
FMAN 311, <i>Silvicultural Systems</i> (3)	SPAN 204, <i>Intermediate Spanish 2</i> (3)
FMAN 322, <i>Advanced Forest Measurements</i> (3)	SPAN 461, <i>Commercial Spanish 1</i> (3)
FMAN 330, <i>Principles Forest Economics</i> (3)	SPAN 462, <i>Commercial Spanish 2</i> (3)
FMAN 433, <i>Forest Management</i> (4)	STAT 312, <i>Intermediate Statistical Methods</i> (3)
FMAN 434, <i>Forest Res. Planning Mgmt.</i> (3)	STAT 313, <i>Introductory Design and Analysis</i> (3)
FMAN 440, <i>Forestry Consulting</i> (3)	STAT 331, <i>Sampling Methods</i> (3)
FOR 140, <i>West Virginia Natural Resources</i> (3)	STAT 338, <i>Statistical Quality Control</i> (3)
FOR 326, <i>Remote Sensing</i> (2)	STAT 421, <i>Statistical Analysis System</i> (3)
FOR 421, <i>Renewable Resources Policy</i> (3)	WDSC 330, <i>Wood Machining</i> (3)
FOR 470A, <i>Prblm: Nat. Res. Entrepreneurship</i> (3)	WDSC 337, <i>Wood Adhesion &amp; Finishing</i> (3)
FRCH 200, <i>Intensive Intermediate French</i> (6)	WDSC 351, <i>Forest Products Protection</i> (3)
FRCH 203, <i>Intermediate French 1</i> (3)	WDSC 423, <i>Forest Roads</i> (4)
FRCH 204, <i>Intermediate French 2</i> (3)	WDSC 460, <i>Plant Layout for Wood Industries</i> (4)
FRCH 461, <i>Commercial French 1</i> (3)	WMAN 150, <i>Conservation Biology</i> (3)
GEOG 102, <i>World Regions</i> (3)	WMAN 234, <i>Forest Wildlife Mgmt.</i> (3)