

**Sustainable Materials Science and Technology Option
Coursework Requirements - 2016-2017 Catalog
29 Total Credits**

Required Courses

FOR 280
FOR 480*
FOR 481*
FOR 483*
FOR 485*
FOR 486*
FOR 487*
MATH 151/181
NREM 104

26 credits

Wood Properties and Identification 4 cr
Wood Anatomy and Fiber Analysis 3 cr
Conversion of Lignocellulosic Materials 3 cr
Wood Deterioration and Preservation 3 cr
Wood and Natural Fiber Composites 3 cr
Drying Processes for Wood & Lignocellulosic Materials 3 cr
Physical Properties of Wood 4 cr
Calculus Elective 3 or 4 cr
Practical experience requirement R

Restricted Elective

TSM 270
TSM 310

Select three credits from the following list:

Principles of Injury Prevention 3 cr
Total Quality Improvement 3 cr

* Courses offered only in alternate years:

FOR 480 offered Fall 2017
FOR 481 offered Fall 2016
FOR 483 offered Fall 2017
FOR 485 offered Fall 2016
FOR 486 offered Spring 2018
FOR 487 offered Spring 2018

For subsequent offerings, see the ISU "Schedule of Classes" web page.

Suggested Sequence of Courses
Sustainable Materials Science and Technology Option*

Freshman Year

Biol 211	Principles of Biology	3	Math 150	Math for Social Science	3
Biol 211L	Prin. of Biology Lab.	1	Chem 163	General Chemistry	4
NREM 110	Orientation in NREM	1	Chem 163L	General Chemistry Lab	1
Engl 150	Critical Thinking & Comm	3	Stat 101	Intro to Statistics	4
Math 140	College Algebra**	3	Lib 160	Library Instruction	1
NREM 120	Intro. Renew Resources	3	Required Elective		<u>3</u>
Soc	Sociology Elective	<u>3</u>			<u>16</u>
		17			

Sophomore Year

For 201	Forest Biology	2	Agron 154	Fund. of Soil Science	3
For 202	Wood Utilization	2	Engl 250	W/O/V/E/ Communication	3
For 203	Resource Meas/Eval	2	For 280	Wood Prop & ID	4
For 204	Ecosys. Decision-Making	2	NREM 211	Careers in Nat. Res.	1
For 205	Integrated Forestry Lab	3	Free Elective		<u>6</u>
For 206	Fall Forestry Camp	<u>4</u>			<u>17</u>
		15			

Junior Year***

Math 151/181	Calculus Elective	3 or 4	For 302	Silviculture	3
Sp Cm 212	Fund. of Public Speaking	3	For 451	For. Econ./Quant. Methods	4
Free Elective		3	Free Elective		3
Choose:			Choose:		
For 480	Wood Anatomy & Fiber	3	For 486	Drying Processes for Wood	3
For 483	Wood Deterioration & Pres.	3	For 487	Phy. Properties of Wood	4
Or:			Or:		
For 481	Conversion of Ligno Matls.	3	Required Elective		3
For 485	Wood & Nat Fiber Composites	<u>3</u>	Free Elective		<u>3</u>
		15 - 16			<u>16-17</u>

Senior Year***

Communication Elective		3	For 454	For. Practicum	3
Required Elective		6	Free Electives		6
Restricted Elective		3	Choose:		
Choose:			For 486	Drying Processes for Wood	3
For 480	Wood Anatomy & Fiber	3	For 487	Phy. Properties of Wood	4
For 483	Wood Deterioration & Pres.	3	Or:		
Or:			Required Elective		3
For 481	Conversion of Ligno Matls.	3	Free Elective (as needed)		<u>3</u>
For 485	Wood & Nat Fiber Composites	<u>3</u>			<u>15-16</u>
		18			

* To complete degree program in 4 years students must maintain an average of 16 credits per semester.

** Initial math course is determined on the basis of high school math and placement test scores. A non-credit math course (Math 10) may be required at additional cost.

*** In scheduling coursework, students should pay particular attention to courses with limited offerings (e.g., offered only on alternate years) and to course sequences (i.e., where a course serves as a prerequisite for another course).

Note: In addition to coursework listed above, students must complete departmental requirements for Practical Work Experience requirement (NREM 104). See <http://www.nrem.iastate.edu/workexperience> for details.