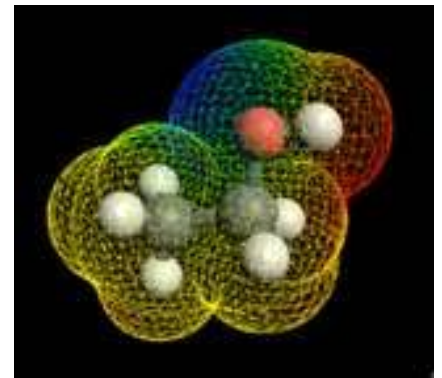
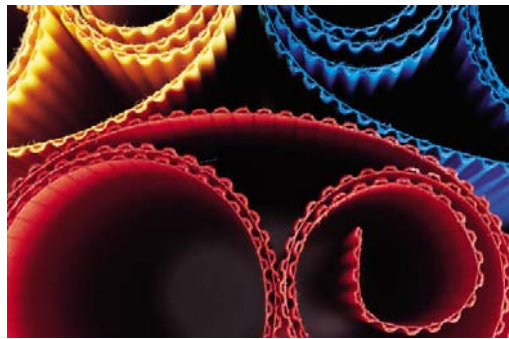


PAPER SCIENCE AND ENGINEERING

Bachelor of Science in Forest Resources



PSE students study in a revolutionary field, using science and engineering of natural products in innovative ways to change the way we package, market and fuel our future.

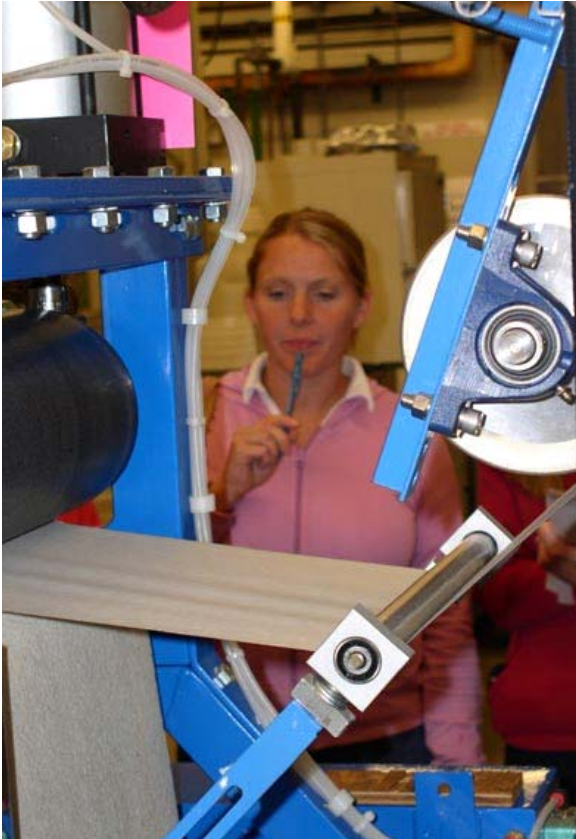


COURSE	CR	TITLE and notes	EXPECTED QTR	COURSES (CONTINUED)																				
COMPOSITION REQUIREMENT (5 CREDITS)				<div style="border: 1px solid black; padding: 5px;"> <p>TECHNICAL AND BUSINESS OPTION ELECTIVES (12 credits minimum):</p> <p>Six (6) credits must come from the Engineering Topics list below. Students may elect to complete remaining credits with a Business Option.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Approved Courses</th> <th style="text-align: left;">CR</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="text-align: center;">Engineering Topics List</p> <p>Include a minimum of 6 credits from this list in your Technical and Business Option Elective Requirement. Other courses may be petitioned with faculty approval.</p> <p>CSE 142; CHEM E 326, 341, 342, 345, 355, 455, 462, 480, 481; MSE 170, 310, 362, 463, 471, 475; CEE 220, 350, 461, 480, 482, 485, 486, 487, 488, 490, 493, 494; A A 210; E E 215; IND E 337; M E 230; PSE 490, 494, 495, 496, 499</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="text-align: center;">Business Option Course List</p> <p>Courses for students who want a grounding in business topics. This is a transcripted option for the PSE major.</p> <p>Required courses: ESRM 320 (5); ESRM 321 (5)</p> <p>Choose a minimum of one: I BUS 300 (5); MKTG 301 (4); MKTG 335 (4); MKTG 450 (4); ESRM 400 (3); MGMT 300 (4); MGMT 401 (4); MGMT 403 (4); ACCTG 215 (5); ACCTG 225 (5); CFR 519 (5); OPMGT 301 (4).</p> </div>	Approved Courses	CR																		
Approved Courses	CR																							
___ ENGL COMP	(5)	Any UW Composition (C) Course* ¹	A/W/Sp/S																					
VLPA REQUIREMENTS (10 CREDITS)																								
___ VLPA	(10)	Any UW VLPA Courses	A/W/Sp/S																					
I&S REQUIREMENTS (7 CREDITS)																								
___ ECON 200	(5)	Introduction to Microeconomics	A/W/Sp/S																					
___ I&S ³	(2)	Any UW I&S Course	A/W/Sp/S																					
MATHEMATICS/QUANTITATIVE SCIENCE REQUIREMENTS (23 CREDITS)																								
___ MATH 124	(5)	Calculus with Analytic Geometry I*	A/W/Sp/S																					
___ MATH 125	(5)	Calculus with Analytic Geometry II*	A/W/Sp/S																					
___ MATH 126	(5)	Calculus with Analytic Geometry III*	A/W/Sp/S																					
___ MATH 307	(3)	Intro to Differential Equations	A/W/Sp/S																					
___ Q SCI 381 ²	(5)	Intro to Probability & Statistics	A/W/Sp/S																					
CHEMISTRY/PHYSICS REQUIREMENTS (41 CREDITS)																								
___ CHEM 142	(5)	General Chemistry*	A/W/Sp/S																					
___ CHEM 152	(5)	General Chemistry*	A/W/Sp/S																					
___ CHEM 162	(5)	General Chemistry*	A/W/Sp/S																					
___ CHEM 237	(4)	Organic Chemistry	A/W/S																					
___ CHEM 238	(4)	Organic Chemistry	W/Sp/S																					
___ CHEM 455	(3)	Physical Chemistry	A/Sp																					
CHEMICAL ENGINEERING REQUIREMENTS (20 CREDITS)																								
___ CHEM E 260	(4)	Thermodynamics	A/W/Sp/S																					
___ CHEM E 310	(4)	Material and Energy Balances	A																					
___ CHEM E 330	(5)	Transport Processes I	W																					
___ CHEM E 340	(4)	Transport Processes II	Sp																					
___ CHEM E 436	(3)	Chemical Engineering Laboratory I	A/Sp																					
MAJOR REQUIREMENTS (48 CREDITS)																								
___ T C 231	(3)	Technical Writing	A/W/Sp/S																					
___ PSE 201	(3)	Intro to Pulp, Paper and Bioproducts+	A																					
___ PSE 202	(1)	Pulp and Paper Lab & Field Studies +	A																					
___ PSE 248	(4)	Paper Structure and Properties +	A																					
___ PSE 402	(3)	Paper Physics +	A																					
___ PSE 404	(3)	Raw Materials Papermaking +	Sp																					
___ PSE 406	(3)	Natural Products Chemistry +	A																					
___ PSE 450	(2-4)	Paper Science and Engineering Seminar+	Sp																					
___ PSE 476	(3)	Pulping & Bleaching Processes +	W																					
___ PSE 477	(3)	Papermaking Processes II +	A																					
___ PSE 478	(2)	Pulp & Paper Laboratory +	Sp																					
___ PSE 479	(3)	Pulp & Paper Laboratory II +	W																					
___ PSE 480	(3)	Pulp & Paper Process Control+	W																					
___ PSE 481	(3)	Pulp & Paper Unit Operation +	W																					
___ PSE 482	(3)	Paper Science & Engineering Design I+	Sp																					
___ PSE 487	(5)	Paper Science & Engineering Design II+	Sp																					
___ PSE 497	(1)	Pulp & Paper Internship +	A/W/Sp/S																					
GENERAL FREE ELECTIVES (TO REACH 180 FOR DEGREE) - STUDENT CHOICE A/W/Sp/S																								
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">Academic Progress Policy</p> <p>All PSE students are expected to maintain satisfactory progress with the department and the University. Please see the website for details: http://www.cfr.washington.edu/Acad/undergrad/PSE/</p> </div>																								

PROGRAM INFORMATION

Accreditation:

The Paper Science and Engineering Program is a rigorous ABET accredited engineering major based in the College of Forest Resources. The faculty, staff and students participated in a review by ABET in 2007 and a final positive review was received.



Sample Areas of Research:

High-speed chemical analysis of biomass;

Use of natural non-wood products to make paper and other bio-products;

Bioconversion of lignocellulosic biomass to ethanol;

Biofuel and bioenergy options from wood;

Surface and colloid science of papermaking;

Secondary fiber recycling;

Fiber composites;

Polymer science;

Controlled release systems.



Additional Areas of Study:

Students with an interest in chemical engineering find pursuing a double degree beneficial due to complimentary course requirements. Applications for a CHEM E major can be made during the senior year and require approximately one additional year of coursework.

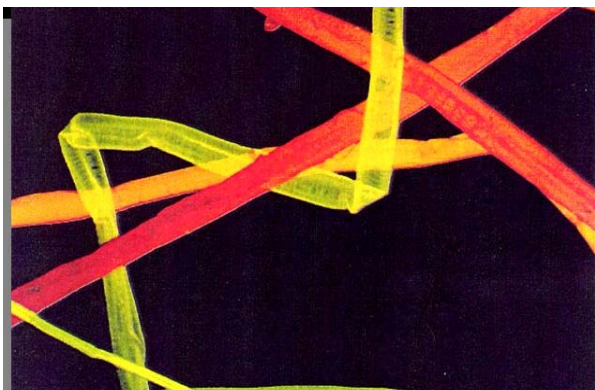
Current research in the use of biomass for biofuels production can also be found in the undergraduate curriculum.

UW Honors and Departmental Honors are available for qualifying students.

Scholarships:

Annual CFR and Washington Pulp and Paper Foundation scholarships are available based on academic performance. Contact WPPF: <http://depts.washington.edu/wppf/scholarships.htm>

...accreditation, honors, scholarships, internships, research, admissions...



Admission:

PSE is a competitive major that requires a separate application from UW Admissions. Complete the online application (when available) through the College of Engineering website: <http://www.engr.washington.edu/advising/engrapplcations.html> or request a paper application through:

Office of Student and Academic Services

Anderson Hall Rooms 116/130

cfradv@u.washington.edu

206-543-7081

Co-op, Internship and Career Tools:

Tools and Links: <http://www.cfr.washington.edu/Acad/careers.htm>

CFR Joblist: <http://mailman.u.washington.edu/mailman/listinfo/cfrjoblist>

Engineering Career Fairs: http://www.engr.washington.edu/coop/career_fairs.html

TAPPI: <http://www.tappi.org/oldtappi/careercenter/careercenter.asp>

Washington Pulp and Paper Foundation: <http://depts.washington.edu/wppf/employment.htm>

Engineering Co-op Program: <http://www.engr.washington.edu/coop/>



...careers, alumni, graduate school, internships...

Alumni Connections:

Alumni Seminar Series

CFR Alumni Association

Washington Pulp and
Paper Foundation



Graduate Study:

Students seeking research, scientist, and higher level management positions may apply to the CFR graduate program in Bioresource Science and Engineering.

Careers:

Example employment opportunities

Research Scientist ~ Process Control Engineer ~
Manufacturing Associate ~ Production Supervisor ~ Paper
Supervisor ~ Marketing ~ Chemical Sales ~ Product
Development ~ Biofuels Research ~ Management

Example student employers

Boise Cascade ~ Georgia Pacific ~ Weyerhaeuser ~ Kimberly
Clark ~ Hercules Inc. ~ Longview Fibre ~ Kemira Chemicals
Inc. ~ Buckman Laboratories ~ Ponderay Newsprint Co. ~
Nippon Paper Ind.



For more information, contact us at:
College of Forest Resources ~ 206-543-7081
www.cfr.washington.edu ~ cfradv@u.washington.edu