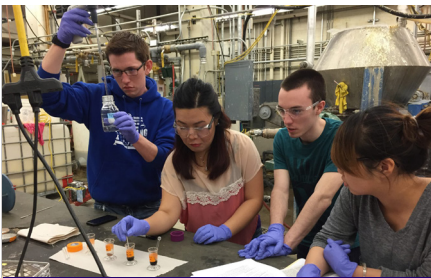


# BIORESOURCE SCIENCE ENGINEERING

BIORESOURCE SCIENCE ENGINEERS DEVELOP TECHNOLOGIES AND PROCESSES TO PRODUCE PRODUCTS FROM SUSTAINABLE BIOMASS RESOURCES.



## QUICK FACTS

Graduates have essentially 100% job placement in their field of study.

All students participate in one or more internships.

More than 50% of our students have scholarships provided by the Washington Pulp & Paper Foundation (WPPF).

Average class size in major classes is 20-25.

BSE design projects win awards, including first place in regional business competitions.

## WHAT DO BIORESOURCE SCIENCE ENGINEERS DO?

Bioresource science engineers apply mathematics, chemistry, engineering and environmental sciences to manufacture fiber products, fuels and chemicals from biomass resources. This multidisciplinary program provides unique opportunities for students to participate in research, internships and work closely with industry.

## WHAT PROBLEMS ARE BIORESOURCE SCIENCE ENGINEERS TRYING TO SOLVE?

Bioresource science engineers manage processes to manufacture environmentally sound products from sustainable natural resources. Students receive hands-on education as undergraduates to address topics such as:

- How do we transform low value materials into high value products?
- How can we use the bioconversion of biomass to make useful fuels and chemicals?
- What kind of natural non-wood products can we use to make paper and other bio-products?
- How can we produce unique nanocarbon structures from biomass?
- How can we close the carbon cycle with biomass?
- How can we develop processes that clean up the environment while providing products and chemicals we use every day?

## WHERE DO BSE ALUMNI WORK?

Graduates from the Bioresource Science Engineering program begin careers in manufacturing, engineering, technical service and management training. Positions include process engineer, technical sales engineer, product development engineer, environmental engineer or scientist and research engineer as well as many other specialties that require a fundamental chemical engineering background. Alumni get into top-ranked graduate programs in engineering, business and environmental sciences as well as work in a broad range of industries:

**Aerospace** – materials, environmental engineering

*Boeing, Department of Defense*

**Chemicals** – technical sales, process engineering, biofuels

*BASF, ZeaChem, Kemira, Nalco*

**Forest products** – process engineering, environmental engineering, process control, technical sales

*International Paper, Georgia-Pacific, WestRock, Domtar*

**Engineering and Process Information Systems** – programming, process design, engineering consulting

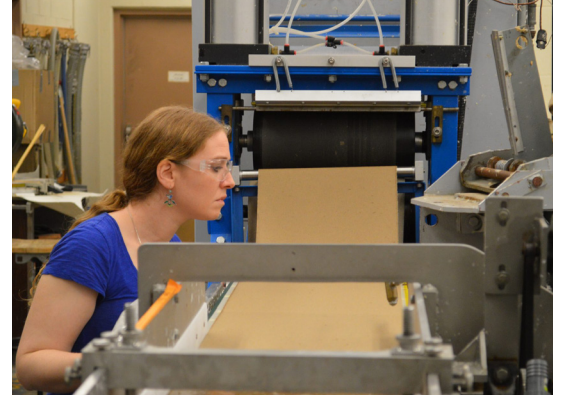
*Harris Group, Capstone Technologies, MAJIQ, AT&T*

## RECENT SPECIAL DESIGN PROJECTS

- > **BioPots** - Molded plant pots produced from brewery spent grains
- > **NanoPrint** – 3D printing materials produced from biomass feedstock
- > **Waste to fuel** – Fuel grade ethanol produced from pulp mill waste streams
- > **Recyclable coffee cup** Paper coffee cup that is both compostable and recyclable; all produced from biomass resources

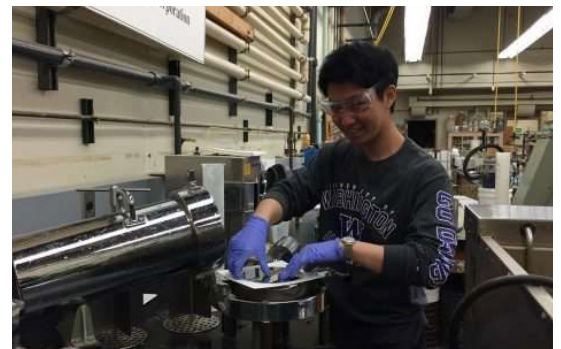
## WHAT MAKES BSE SPECIAL?

Students are placed in tight-knit cohorts and work in small classes of 20-25. They receive ample opportunities for research, and work closely with faculty and industry. The BSE program partners with the Washington Pulp and Paper Foundation for scholarships, internships and career planning. In addition to pulp and paper, students learn about other products and processes for a range of industries, including biofuels, biochemicals and bioenergy.



## HOW CAN I LEARN MORE?

If you think BSE might be for you, there are many opportunities to explore. You can start doing research in a lab even before placing into a major. Consider taking classes for non-majors such as BSE 201: Introduction to Pulp, Paper, and Bioproducts.



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