"So what will my coursework look like?"
Example AMP 'tracks' for BS Ecological Engineering majors

The most common question from prospective students in the AMP is "What courses can I take?" Overall, our curriculum is very flexible, allowing each student to customize their coursework.

On subsequent pages you can see templates of courses that enable you develop an expertise in a particular area of interest. These are provided as suggestions to students to demonstrate what is possible in the AMP – each students' plan of study will be unique. Consider these a starting point from which you can further explore and customize to meet your interests.

Note that all templates assume a student is proceeding through their BS Ecological Engineering in lock-step with our advising 'bubble sheet'. Of course that won't be the case for everyone, but it is a starting point. If you're not in that position, we adjust your coursework as appropriate.

The template on this page offers the most generic starting point for your planning. While you will ultimately work with your AMP advisor to propose a slate of courses, this gives you a sense of how many courses will be taken each term.

Generic Suggestions			**Credits**
4th year	Fall		
	Winter	BEE568	Bioremediation[1]	4
		BEE 507	Seminar	1
	Spring		
5th year	Fall		
	Winter	BEE 529	Biological Systems Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1
		BEE 507	Seminar	1

[1] BEE568 satisfies the BS requirement for BEE468. This course is not required for the MEng degree. For students in the BS Ecological Engineering program, this should be taken to most efficiently earn graduate credits.

Finally – remember that we work with each student to develop a customized plan of study to meet their goals and fit into their progression through our programs. The following pages are examples, not requirements.

Water Resources Engineering

The coursework below emphasizes hydrology and hydraulics, developing an expertise in understanding and predicting stores and fluxes of water. This curriculum is designed to build an expertise in physical processes relevant to water resources engineers.

Water Resources Engineering (Hydrology & Hydraulics Focused)

4th year	Fall	BEE 512	Physical Hydrology	3
		WRP 524	Sociotechncial Aspects of Water Resources	3
	Winter	BEE568	Bioremediation	4
		BEE 505	Readings & Conference (Independ study; topic of your choice)	2
		BEE 549	Regional Hydrologic Modeling	3
	Spring	BEE 546	River Engineering	4
		BEE 558	Nonpoint Source Pollution	3
5th year	Fall	GEOG 596	Field Research in Geomorphology & Landscape Ecology	3
		BEE 542	Vadose Zone Transport	4
		BEE 507	Seminar	1
		GEOG 596	Field Research in Geomorphology & Landscape Ecology	3
	Winter	BEE/CE/GEO 514	Groundwater Hydraulics	4
		BEE 529	Biological Systems Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1
		BEE 507	Seminar	1
		GEOG 523	Snow Hydrology	3

Water Resources – Aquatic Ecosystems & Habitat Focus

The coursework below emphasizes water resources including a depth of expertise spanning physical, chemical, and biological aspects of water resources. Compared to the Water Resources Engineering track, less coursework in physical hydrology and hydraulics enables students to gain additional training in ecology, biology, and ecosystem management.

Water Resources (Aquatic Ecosystem & Habitat Focus)

4th year	Fall	BEE 512	Physical Hydrology[1]	3
		FW 554	Fishery Biology	4
	Winter	BEE568	Bioremediation[2]	4
		BEE 507	Seminar	1
		BEE/CE/GEO 514	Groundwater Hydraulics	4
	Spring	FES 545	Ecological Restoration	4
		FW 556	Freshwater Ecology & Conservation	5
5th year	Fall	GEOG 596	Field Research in Geomorphology & Landscape Ecology	3
		BEE 549	Regional Hydrologic Modeling	3
		BEE 542	Vadose Zone Transport	4
		FW 544	Quantitative Decision Analysis for Fish & Wildlife Management	4
		FW580	Stream Ecology	3
	Winter	BEE 529	Biological Systems Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1
		BEE 507	Seminar	1

Agricultural Systems / Biosystems Engineering

The coursework below extends the fundamental skillsets of Ecological Engineers to engage with managed agricultural systems. Coursework emphasizes a systems approach to analyzing and managing agro-ecosystems and agricultural systems. This is akin to 'Biosystems Engineering' offered at many universities.

Agricultural Systems

4th year	Fall	BEE 512	Physical Hydrology	3
		BEE 542	Vadose Zone Transport	4
	Winter	BEE568	Bioremediation	4
		BEE 507	Seminar	1
		BEE 533	Irrigation Systems Engineering	4
	Spring	CROP 514	Precision Agriculture	4
		BEE 558	Nonpoint Source Pollution	3
5th year	Fall	SNR 512	Sustainable Natural Resource Development	3
		SOIL 535	Soil Physics	4
		BEE 505	Readings & Conference (Independ study; topic of your choice)	1
		FW562	Ecosystem Services	3
	Winter	AEC 556	Sustainable Agricultural Development	3
		BEE 529	Biological Systems Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1
		BEE 507	Seminar	1
		FW 535	Wildlife in Agricultural Ecosystems	3

Ecosystem Restoration & Management

The coursework below emphasizes the intersection of Ecological Engineering with the restoration and proactive management of natural ecosystems. The coursework below biases toward aquatic systems, but a host of complementary courses are available related to rangeland ecology, forest ecosystems, marine ecosystem, and more.

Ecosystem Restoration & Management

4th year	Fall	BEE 512	Physical Hydrology	3
		ENVE 532	Aquatic Chemistry: Natural & Engineered Systems	4
	Winter	BEE568	Bioremediation	4
		BEE 507	Seminar	1
		FW573	Fish Ecology & Conservation	4
	Spring	BEE 546	River Engineering	4
		BEE 558	Nonpoint Source Pollution	3
5th year	Fall	FES 542	Wildlife Landscape Ecology	3
		GEOG 596	Field Research in Geomorphology & Landscape Ecology	3
		FW562	Ecosystem Services	3
	Winter	FW580	Stream Ecology	3
		BEE 529	Biological Systems Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1
		BEE 507	Seminar	1
		TOX 555	Ecotoxicoloty: Aquatic Ecosystems	3

Environmental Remediation & Treatment Processes

The coursework below applied Ecological Engineering fundamentals to the treatment of resources extracted from (e.g., drinking water) or released into (e.g., wastewater treatment) the environment, as well as their ecological impacts and remediation.

Environmental Remediation & Treatment Processes

4th year	Fall	BEE 512	Physical Hydrology[1]	3
		ENVE 521	Drinking Water Treatment Processes	4
	Winter	BEE568	Bioremediation[2]	4
		BEE 507	Seminar	1
		BEE/CE/GEO 514	Groundwater Hydraulics (4)	4
	Spring	BEE 558	Nonpoint Source Pollution[1]	3
		AEC 532	Environmental Law	4
		ENVE 554	Groundwater Remediation	3
5th year	Fall	BEE 542	Vadose Zone Transport	4
		ENVE 532	Aquatic Chemistry: Natural & Engineered Systems	4
	Winter	ENVE 522	Wastewater Treatment Processes	4
		TOX 555	Ecotoxicology: Aquatic Systems	3
		BEE 529	Biological Systems Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1
		BEE 507	Seminar	1

Toxicology & Microbial Processes

The coursework below builds expertise in using microbial processes to achieve desired effects, often in the context of recovery of resources from waste streams, leveraging naturally occurring processes to treat environmental contamination, and understanding the toxicology of pollutants in the environment.

Toxicoloty & Microbial Processes

4th year	Fall	BEE 512	Physical Hydrology[1]	3
		TOX 511	Fundamental of Toxicoloty	3
	Winter	BEE568	Bioremediation[2]	4
		BEE 507	Seminar	1
		BEE/CE/GEO 514	Groundwater Hydraulics (4)	4
	Spring	SOIL 555	Biology of Soil Ecosystems	3
		TOX 513	Environmental Toxicology and Risk Assessment	3
		ENVE 545	Microbial Methods in Environmental Engineering	4
5th year	Fall	BEE 542	Vadose Zone Transport	4
		ENVE 532	Aquatic Chemistry: Natural & Engineered Systems	4
		BEE 505	Readings & Conference (Independ study; topic of your choice)	1
		BEE 507	Seminar	1
	Winter	TOX 555	Ecotoxicology: Aquatic Systems	3
		BEE 529	Biological Systems Modeling	3
		BEE 549	Regional Hydrologic Modeling	3
		ENGR 521	M.Eng. Portfolio Completion	1