

Core Curriculum for PhD in Water Resources Engineering

Core Courses - Required (9 credits)

WRX 507 Water Resources Seminar (1)

WRP 524 Socio-technical Aspects of Water (3)

WRX 505/507 Water Resources Seminar and Journal Club (1 + 1)

BEE 512 Physical Hydrology (3)

Course Number	Course Title	Credits	Required	AIH Categories
Groundwater Engineering				
BEE/CE/GEO 514	<u>Groundwater Hydraulics</u>	3	yes	1
*BEE <u>533</u>	Drainage System Design	4		2
BEE/CE/FE <u>540</u>	Field and Laboratory Techniques in Subsurface Hydrology	1-3		1
BEE <u>542</u>	Vadose Zone Transport	4		1
BEE 571	Biosystems Modeling	3	yes	2
ENVE <u>554</u>	Groundwater Remediation	4		1
GPH 665	Geophysical Field Techniques	3		
Surface Water Engineering				
*BEE <u>533</u>	Irrigation System Design	4		2
BEE/CE/FE 541	Field and Laboratory Techniques in Surface Hydrology (under different name)	3		1
BEE/CE <u>544</u>	Hydraulics of Open Channels	4	yes	1
BEE 571	Biosystems Modeling	3		2
CE <u>518</u>	Groundwater Modeling	3		1
CE <u>543</u>	Applied Hydrology	4		1
BEE <u>546</u>	River Engineering	4		1
CE 641	Ocean Engineering Wave Mechanics	3		2
FE 536X	Forest Erosion Processes			2
FE 537	Hillslope Hydrology	4		1

Watershed Engineering				
ATS/FS 564	Interactions of Vegetation and Atmosphere	3		2
BEE525	Stochastic Hydrology	3		1
*BEE548	Non-point Source Pollution Assessment and Control	3		1
BEE549	Regional Hydrologic Modeling	3		1
*CE 513	GIS in Water Resources	3		2
BEE 571	Biosystems Modeling	3		2
*CE 517	Hydraulic Engineering Design	4		1
CE 545	Sediment Transport	4		2
CE 548	Water Quality Dynamics	3		1
*CE 556	Environmental Assessment	4		2
*ENVE 521	Water and Wastewater Characterization	4		1
*ENVE 531	Transport/Fate of Organic Chemicals in Environmental Systems	4		2
ENVE 532	Aqueous Environmental Chemistry	4		1
ENVE 534	Physical and Chemical Processes for Water Quality Control	4		1
*FE 530	Watershed Processes	4		1
FE 532	Forest Hydrology	3		1
FE 533	Forest Hydrology Laboratory	1		1
FE 535	Water Quality and Forest Land Use	3		1
FE 630	Special Topics in Forest Hydrology	1-3		1
FS 561	Physiology of Woody Plants	3		2

*4XX/5XX courses