

**Teaching Outline**  
**Dr. Brian Boman**

<b>15.00</b>	<b>Total</b>		
<b>Hours</b>	<b>hours</b>		
	<b>3.00</b>	<b>1.0</b>	<b>Soil - Water - Plant Relationships</b>
		1.1	<i>Soil Physics</i>
0.75		1.2	<i>Evapotranspiration</i>
0.75		1.3	<i>Weather Data</i>
0.25		1.4	<i>Water Use and Irrigation Scheduling</i>
0.75		1.5	<i>Examples</i>
0.50			
	<b>1.00</b>	<b>2.0</b>	<b>Water Supply and Quality</b>
		2.1	<i>Water Quality Parameters</i>
0.50		2.2	<i>Well Design and Construction</i>
0.25		2.3	<i>Surface Water Sources</i>
0.25			
	<b>1.50</b>	<b>3.0</b>	<b>Drainage and Water Table Management</b>
		3.1	<i>Drainage</i>
0.50		3.2	<i>Water Table Measurement and Monitoring</i>
0.50		3.3	<i>Salinity Problems</i>
0.50			
	<b>1.00</b>	<b>4.0</b>	<b>Hydraulics and Water Measurement</b>
		4.1	<i>Hydraulics</i>
0.50		4.2	<i>Water Measurement</i>
0.50			
	<b>1.00</b>	<b>5.0</b>	<b>Pumps and Power Units</b>
		5.1	<i>Pumps</i>
0.25		5.2	<i>Power Units</i>
0.25		5.3	<i>Pump and Power Unit Evaluation</i>
0.25		5.4	<i>Pump and Engine Maintenance</i>
0.25			
	<b>1.00</b>	<b>6.0</b>	<b>Filtration, Valves, and Control Systems</b>
		6.1	<i>Filtration</i>
0.50		6.2	<i>Control, Regulating, and Air Valves</i>
0.25		6.3	<i>Control and Automation</i>
0.25			
	<b>2.00</b>	<b>7.0</b>	<b>Microirrigation Systems</b>
		7.1	<i>Microirrigation system design</i>
0.50		7.2	<i>Emitter Selection Considerations</i>
0.50		7.3	<i>System Installation</i>
0.25		7.4	<i>Chemigation Equipment and Safety</i>
0.25		7.5	<i>Efficiency, Uniformity, and System Evaluation</i>
0.50			

	<b>2.50</b>	<b>8.0 Microirrigation System Operation and Maintenance</b>
1.00		8.1 <i>Fertigation and Nutrient Management</i>
1.00		8.2 <i>Emitter Clogging</i>
0.50		8.3 <i>Frost/Freeze Protection</i>
0.50	<b>0.50</b>	<b>9.0 Economic Considerations</b>
1.25	<b>1.00</b>	<b>10.0 Agricultural Best Management Practices</b>
	0.25	10.1 <i>History, need, &amp; goals</i>
	0.25	10.2 <i>Development Process</i>
	0.25	10.3 <i>Examples for various crops</i>
	0.25	10.4 <i>Success Stories</i>
0.25	<b>0.25</b>	<b>11.0 Research and Extension philosophy</b>