

# WATER SCIENCE AND MANAGEMENT (B.S.S.W.S.)

Required course work includes the university requirements (see regulation J-3 (<https://catalog.uidaho.edu/general-requirements-academic-procedures/j-general-requirements-baccalaureate-degrees/#j3>)) and:

Code	Title	Hours
SOIL 1200	Introduction to Water Science and Management	2
ASM 3050	Precision Agriculture	3
ASM 3150	Irrigation Systems and Water Management	3
BIOL 1150 & 1150L	Cells and the Evolution of Life and Cells and the Evolution of Life Laboratory	4
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Laboratory	4
CHEM 1120 & 1120L	General Chemistry II and General Chemistry II Laboratory	5
ENGL 1101	Writing and Rhetoric I	3
ENGL 1102	Writing and Rhetoric II	3
FIRE 3326	Fire Ecology	3
GEOG 3850 or FOR 3700	Foundations of GIS Fundamentals of Geomatics	3
GEOL 1110 & 1110L	Physical Geology for Science Majors and Physical Geology for Science Majors Lab	4
GEOL 3090	Ground Water Hydrology	3
GEOL 4100	Groundwater Field Methods	3
HYDR 4090 or HYDR 4120	Quantitative Hydrogeology Environmental Hydrogeology	3
MATH 1143	Precalculus I: Algebra	3
MATH 1144	Precalculus II: Trigonometry	1
MATH 1170	Calculus I	4
MATH 1750	Calculus II	4
PHYS 1111 & 1111L	General Physics I and General Physics I Lab	4
PHYS 1112 & 1112L	General Physics II and General Physics II Lab	4
PLSC 1020 or FOR 2100	The Science of Plants in Agriculture Principles of Ecology	3
SOIL 2050	The Soil Ecosystem	3
SOIL 2060	The Soil Ecosystem Lab	1
SOIL 4150	Soil and Environmental Physics	3
SOIL 4220	Environmental Soil Chemistry	3
SOIL 4380	Pesticides in the Environment	3
SOIL 4460	Soil Fertility	3
SOIL/ENVS 4500	Environmental Hydrology	3
SOIL 4520	Environmental Water Quality	3
STAT 2510	Statistical Methods	3
Select one of the following:		3
AGED 4060	Exploring International Agriculture	
ANTH/SOC 3500	Food, Culture, and Society	
AGED 4070	Global Agricultural & Life Sciences Systems	

Select one of the following: 3

ENGL 3130	Business Writing
ENGL 3160	Environmental Writing
ENGL 3170	Technical Writing II

Select one of the following: 3-4

GEOG 4240	Hydrologic Applications of GIS and Remote Sensing
GEOG 4750	Intermediate GIS
FOR 4720	Remote Sensing of the Environment

**Total Hours 103-104**

## Courses to total 120 credits for this degree

Fall Term 1		Hours
COMM 1101	Fundamentals of Oral Communication	3
ENGL 1101	Writing and Rhetoric I	3
GEOL 1110	Physical Geology for Science Majors	3
GEOL 1110L	Physical Geology for Science Majors Lab	1
MATH 1143	Precalculus I: Algebra	3
MATH 1144	Precalculus II: Trigonometry	1
SOIL 1200	Introduction to Water Science and Management	2
<b>Hours</b>		<b>16</b>
Spring Term 1		Hours
CHEM 1111	General Chemistry I	3
CHEM 1111L	General Chemistry I Laboratory	1
ENGL 1102	Writing and Rhetoric II	3
MATH 1170	Calculus I	4
Humanistic and Artistic Ways of Knowing Course		3
<b>Hours</b>		<b>14</b>
Fall Term 2		Hours
BIOL 1150	Cells and the Evolution of Life	3
BIOL 1150L	Cells and the Evolution of Life Laboratory	1
CHEM 1120	General Chemistry II	4
CHEM 1120L	General Chemistry II Laboratory	1
PHYS 1111	General Physics I	3
PHYS 1111L	General Physics I Lab	1
PLSC 1020 OR FOR 2100		3
<b>Hours</b>		<b>16</b>
Spring Term 2		Hours
MATH 1750	Calculus II	4
PHYS 1112	General Physics II	3
PHYS 1112L	General Physics II Lab	1
SOIL 2050	The Soil Ecosystem	3
SOIL 2060	The Soil Ecosystem Lab	1
STAT 2510	Statistical Methods	3
<b>Hours</b>		<b>15</b>
Fall Term 3		Hours
ASM 3150	Irrigation Systems and Water Management	3
GEOL 3090	Ground Water Hydrology	3
SOIL 4150	Soil and Environmental Physics	3
ENGL 3130 OR ENGL 3160 OR ENGL 3170		3
Social & Behavioral Ways of Knowing Course		3
<b>Hours</b>		<b>15</b>
Spring Term 3		Hours
SOIL 4220	Environmental Soil Chemistry	3
SOIL 4380	Pesticides in the Environment	3
GEOG 3850 OR FOR 3700		3
AGED 4060 OR AGED 4070 OR SOC 3500 OR ANTH 3500		3
Humanistic and Artistic Ways of Knowing Course		3
<b>Hours</b>		<b>15</b>

**Fall Term 4**

ASM 3050	Precision Agriculture	3
GEOL 4100	Groundwater Field Methods	3
SOIL 4520	Environmental Water Quality	3
SOIL 4500 OR ENVS 4500		3
American Experience or International Course 3500/SOC 3500	Based on taking either AGED 4060 or ANTH	3
<b>Hours</b>		<b>15</b>

**Spring Term 4**

SOIL 4460	Soil Fertility	3
FIRE 3326	Fire Ecology	3
HYDR 4090 OR HYDR 4120		3
FOR 4720 OR GEOG 4240 OR GEOG 4750		3
Social & Behavioral Ways of Knowing Course taken	If ANTH 3500/SOC 3500 course option not taken	3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>121</b>

The degree map is a guide for the timely completion of your curricular requirements. Your academic advisor or department may be contacted for assistance in interpreting this map. This map is not reflective of your academic history or transcript and it is not official notification of completion of degree or certificate requirements. Please contact the Registrar's Office regarding your official degree/certificate completion status.

1. Critically analyze information on the distribution, quality, and use of water resources in the American West and globally. Apply this knowledge to evaluate quantitative and qualitative data related to water quantity and quality, considering trends in sustainable development, agricultural practices and technologies, and water management.
2. Develop cognitive, technical, and creative skills to formulate quantitative predictions concerning surface water and groundwater budgets and flow dynamics. Integrate knowledge from natural and social sciences to address emerging needs in water management, with a focus on climate adaptation and sustainable practices.
3. Evaluate the impacts of climate change, land use, and agricultural, commercial, and industrial activities on the quality of surface water and groundwater. Consider the societal impacts of interventions in the water cycle and assess technical innovations in view of societal and economic costs and benefits.
4. Communicate scientific and technical information effectively through written reports and oral presentations for specialist and non-specialist audiences. Emphasize integrated management that accounts for the synergies and tradeoffs of water's great number uses and values in addressing complex problems in contemporary water resource planning.