

Major Core (57-58 credits)

General Science Core (35 credits)

Choose 1 of the following biology series:

BI 211, BI 212, BI 213. *Principles of Biology (4,4,4) **Note: this will soon be replaced with BI 221, BI 222, BI 223*

OR:

BI 204, BI 205, BI 206. *Introductory Biology I, II, III (4,4,4)

Choose 1 of the following chemistry series:

CH 121 General Chemistry (5) and CH 122, CH 123. *General Chemistry (5,5)

OR:

CH 231, CH 232, CH 233. *General Chemistry (4,4,4) and CH 261, CH 262, CH 263.

*Laboratory for Chemistry 231, 232, 233 (1,1,1)

MTH 111 *College Algebra (4)

Choose one of the following math classes:

MTH 112 *Elementary Functions (4)

MTH 241 *Calculus for Management and Social Science (4)

MTH 245 *Mathematics for Management, Life, and Social Sciences (4)

ST 351 Introduction to Statistical Methods (4)

Orientation (1 credit)

CROP/ENT/HORT/SOIL 101 Introduction to Horticulture, Crop, Soil, and Insect Science (1)

Agricultural Science (11 credits)

CROP 200 Crop Ecology and Morphology (3)

SOIL 205 *Soil Science (3) and SOIL 206. *Soil Science Laboratory for SOIL 205 (1) or CSS 205. *Soil Science (4)

SOIL 316 Nutrient Cycling in Agroecosystems (4)

Experiential Learning (4 credits)

Select 1 of the following courses:

CROP 407 Seminar (1)

SOIL 407 Seminar (1)

Take 3 or more credits of the following:

CROP 401. Research

CROP 403 Thesis

CROP 410 Internship

SOIL 401 Research

SOIL 403 Thesis

Commented [DAS1]: Maybe it was my internet not working correctly, but I couldn't find BI 222 or BI 223 on the catalog.

Commented [JPR2]: I think that most CSS students should be advised to take ST 351. However, there are a couple cases where it might not be a good choice, which is why I suggest this flexibility of choosing from among options. First, Ecampus students- Ecampus ST 351 is currently not good; it has a 30% DFW rate, which means this single course can be the reason why a student can't complete their degree. (Stats department is aware of the issue and working on it, but it still may take a while to improve.) Second, not all soil science students will need statistics, some would be better off spending their time on higher level college math, or additional GIS.

Commented [DAS3R2]: That's good to know about the Ecampus ST 351 course. I agree with the inclusion of ST 351 here as an optional math class & a general elective for the Agronomy option. Perhaps we should also list ST 351 under the list of Research Track (optional) classes for Agronomy.

SOIL 408 Workshop: Soil Judging
SOIL 410 Internship

Ecology (3 to 4 credits)

Select 1 of the following courses:

BI 370 Ecology (3)
BOT 341 Plant Ecology (4)
HORT 318 Applied Ecology of Managed Ecosystems (3)
RNG 341. Rangeland Ecology and Management (3)

Commented [DAS4]: I know we were ready to finalize the Major Core requirements, but in reviewing the Soils option classes, I was curious if SOIL 366 and/or SOIL 388 would meet "Ecology" expectations & should then be included here as well. Perhaps it would be good to add in more CSS classes in this section...

Writing Intensive Course (WIC) (3 credits)

Select 1 of the following courses:

CROP/SOIL/SUS 325 ^Ag and Environmental Predicaments: A Case Study Approach (3)
SOIL 395 ^*World Soil Resources (3)

Agronomy Option (47-52 credits)

Agronomy Core (20 credits)

BOT 350 Introductory Plant Pathology (4)
CROP 280 Introduction to the Complexity of Oregon Cropping Systems (4)
CROP 300 Crop Production in Pacific Northwest Agroecosystems (4)
CROP 440 Weed Management (4)
ENT 311 Introduction to Insect Pest Management (4)

Technology (3-4 credits)

Select 1 of the following courses:

CROP 414 Precision Agriculture (4)
CROP 420 Seed Science and Technology (3)

Commented [DAS5]: What are your thoughts about adding SOIL 468 here as an optional "Technology" course? I wasn't sure if SOIL 468 was too heavy with GIS/mapping for agronomy students if they don't have the soils background, or if you think that agronomy students could benefit from this class.

Capstone (4 credits)

CROP/HORT 480 Case Studies in Cropping Systems Management (4)

Agronomy Electives (7-8 credits)

Select at least 7-8 credits of the following courses:

CROP 330 *World Food Crops (3)
CROP 310 Forage Production (4)
CROP 420 Seed Science and Technology (3)
CROP 460 Seed Production (3)
HORT 316 Plant Nutrition (4)
PBG 430 Plant Genetics (3)
PBG 431 Plant Genetics Recitation (1)

Business and Economics (6-8 credits)

Select 1 of the following courses:

AEC 250 Introduction to Environmental Economics and Policy (3)
AEC 251 Introduction to Agricultural and Food Economics (3)
ECON 201 *Introduction to Microeconomics (4)

Select 1 of the following courses:

AEC 211 Agricultural and Food Management (4)
AEC 221 Agricultural and Food Marketing (3)
AEC 388 Agricultural Law (4)
BA 365 Family Business Management (4)

General Electives (7-8 credits)

Select at least 7-8 credits of the following courses:

AEC 211 Agricultural and Food Management (4)
AEC 221 Agricultural and Food Marketing (3)
AEC 250 Introduction to Environmental Economics and Policy (3)
AEC 251 Introduction to Agricultural and Food Economics (3)
AEC 372 Agricultural Cooperatives (3)
AEC 388 Agricultural Law (4)
AEC 442 Agricultural Business Management (4)
AEC 444 Commodity Futures and Options Markets (4)
AG 391 Farm Implements (3)
AGRI 420 Introduction to Organic Production
ATS 201 Climate Science
ATS 341 *Climate Change in the PNW
BA 365 Family Business Management (4)
BA 463 Family Enterprise Governance (4)
BB 350 Elementary Biochemistry (4)
BEE 439 Irrigation Principles and Practices (3)
BI 370 Ecology (3)
BOT 313 Plant Structure (4)
BOT 331 Plant Physiology (4)
BOT 341 Plant Ecology (4)
BOT 414 Agrostology
BOT 442 Plant Population Ecology (3)
BOT 480 Photosynthesis and Photobiology
BOT 488 Environmental Physiology of Plants
CH 331 Organic Chemistry
CH 332 Organic Chemistry
CH 337 Organic Chemistry Laboratory
CSS 320 Principles of Oil and Fiber Crop Production (EOU only)
CSS 321 Principles of Cereal Crop Production (EOU only)
CSS 322 Principles of Potato Crop Production (EOU only)
CROP 310 Forage Production (4)
CROP 330 *World Food Crops (3)
CROP 355 Organic Certification
CROP 414 Precision Agriculture (4)
CROP 420 Seed Science and Technology (3)
CROP 460 Seed Production (3)
CROP 463/HORT 463 Seed Biology
ECON 201 *Introduction to Microeconomics (4)
ENT 444 Insect Agroecology
FES 365 *Issues in Natural Resource Conservation (Cascades & Ecampus only) (3)
FES 435/TOX 435 * Genes and Chemicals in Agriculture: Value and Risk
FES 477 Agroforestry
GEOG 201 *Foundations of Geospatial Science and GIS
GEOG 300 *Sustainability for the Common Good
GEOG 340 *Introduction to Water Science and Policy
GEOG 360 GIScience I: Geographic Information Systems and Theory
GEOG 361 GIScience II: Analysis and Applications
HORT 212 Introduction to Organic Agricultural Systems
HORT 260 Organic Farming and Gardening
HORT 301 Growth and Development of Horticultural Crops (3)
HORT 316 Plant Nutrition (4)

Commented [DAS6]: I think that this might be a good class to add to the general electives list...I have heard good things from students about this course.

Commented [JPR7]: Alyssa- This one has BA 365 as a pre-req, so I suggest moving it from Business to the general electives category. Otherwise, you wouldn't be able to take both and have both count towards your major (I think)

Commented [DAS8R7]: I believe that BA was working on removing the pre-req for BA 463, but I'm fine with leaving the BA classes where you have them now.

HORT 318 Applied Ecology of Managed Ecosystems (3)
 HORT 433/CROP 433 Systematics and Adaptation of Vegetable Crops
 MTH 251 *Differential Calculus
 MTH 252 Integral Calculus
 MB 230 *Introductory Microbiology
 PBG 430 Plant Genetics (3)
 PBG 431 Plant Genetics Recitation (1)
 PBG 441 Plant Tissue Culture
 PBG 450 Plant Breeding
 PH 201 *General Physics
 RNG 341. Rangeland Ecology and Management (3)
 SOIL 360 Soil Management for Organic Production
 SOIL 366 Ecosystems of Wildland Soils
 SOIL 388 Soil Systems and Plant Growth
 SOIL 395 *^World Soil Resources (Ecampus only)
 SOIL 435 Environmental Soil Physics
 SOIL 445 Environmental Soil Chemistry
 SOIL 455 Biology of Soil Ecosystems
 SOIL 466 Soil Morphology and Classification
 ST 351 Introduction to Statistical Methods (4)
 ST 411 Methods of Data Analysis (4)
 WR 327 *Technical Writing

Experiential Learning Track (optional)

10 or more credits of a structured internship (CROP 410) can be substituted for 6 of the 7-8 General Elective credits and the four Business Electives credits. This will allow you to use an entire term for internship work.

Research Track (optional)

Suggested classes - Select courses most relevant to your intended graduate school program

BB 350 Elementary Biochemistry
 BI 211 *Principles of Biology
 & BI 212 * Principles of Biology
 & BI 213 * Principles of Biology
 BOT 321 Plant Systematics
 BOT 341 Plant Ecology
 BOT 414 Agrostology
 CH 331 Organic Chemistry
 CH 332 Organic Chemistry
 CH 337 Organic Chemistry Laboratory
 MB 230 *Introductory Microbiology
 MTH 251 *Differential Calculus
 PH 201 *General Physics
 WR 327 *Technical Writing

Commented [JPR9]: I think the list is just here as a reminder that that the higher level Bio series is better if you are research track.

Commented [DAS10]: Do we need these listed here if they are part of the Major Core?

Soil Option (39-59 credits)

Soil Core

Select one of the following two tracks

General Soils Track (11-12 credits for general track)

SOIL 466 Soil Morphology and Classification (4)

Select 2 of the following courses:

SOIL 366 Ecosystems of Wildland Soils (3)
SOIL 388 Soil Systems and Plant Growth (4)
SOIL 435 Environmental Soil Physics (3)
SOIL 445 Environmental Soil Chemistry (3)
SOIL 455 Biology of Soil Ecosystems (4)

Select 1 of the following courses:

GEO 101 *The Solid Earth (4)
GEO 201 *Physical Geology (4)
GEO 202 *Earth System Science (4)
GEO 203 *Evolution of Planet Earth (4)
GEO 221 *Environmental Geology (4)

Soils Research Track (32 credits for research track)

MTH 251 *Differential Calculus (4)
PH 201 *General Physics (5)
PH 202 *General Physics (5)
SOIL 435 Environmental Soil Physics (3)
SOIL 445 Environmental Soil Chemistry (3)
SOIL 455 Biology of Soil Ecosystems (4)
SOIL 466 Soil Morphology and Classification (4)

Select 1 of the following courses:

GEO 101 *The Solid Earth (4)
GEO 201 *Physical Geology (4)
GEO 202 *Earth System Science (4)
GEO 203 *Evolution of Planet Earth (4)
GEO 221 *Environmental Geology (4)

Technology (4)

SOIL 468 Soil Landscape Analysis (4)

Soil Science Electives (7-8 credits)

Select at least 7-8 credits of the following courses:

BOT 350 Introductory Plant Pathology
CROP 280 Introduction to the Complexity of Oregon Cropping Systems

Commented [DAS11]: If I'm understanding it correctly, in theory right now students could complete the General Soils Track option with only taking three SOIL courses in total.

I would recommend making this "select 2 of the following courses." That would then increase the general track soils core to 14-16 credits, which would bring it closer to the agronomy core of 20 credits.

CROP/HORT 414 Precision Agriculture
 CROP/HORT 480 Case Studies in Cropping Systems Management
 ENT 311 Introduction to Insect Pest Management
 FOR 417 Advanced Forest Soils
 GEO 484 Introduction to Biogeochemistry
 SOIL 360 Soil Management for Organic Production
 SOIL 366 Ecosystems of Wildland Soils (3)
 SOIL 388 Soil Systems and Plant Growth (4)
 SOIL 395 *^World Soil Resources (3)
 SOIL 435 Environmental Soil Physics (3)
 SOIL 445 Environmental Soil Chemistry (4)
 SOIL 455 Biology of Soil Ecosystems (4)

Commented [DAS12]: I would recommend removing these three classes from the Soil Science Electives section (but keeping them in the General Electives list). I don't think that there is enough "soil" topics in these to meet expectations for the Soil Science Elective section.

General Electives (7-8 credits)

Select at least 7-8 credits of the following courses:

AEC 211 Agricultural and Food Management (4)
 AEC 221 Agricultural and Food Marketing (3)
 AEC 250 Introduction to Environmental Economics and Policy (3)
 AEC 251 Introduction to Agricultural and Food Economics (3)
 AEC 351 Natural Resource Economics and Policy
 AEC 372 Agricultural Cooperatives (3)
 AEC 388 Agricultural Law (4)
 AEC 442 Agricultural Business Management (4)
 AEC 444 Commodity Futures and Options Markets (4)
 AGRI 420 Introduction to Organic Production
 ATS 201 Climate Science
 ATS 341 *Climate Change in the PNW
 BA 365 Family Business Management (4)
 BA 463 Family Enterprise Governance (4)
 BB 350 Elementary Biochemistry (4)
 BEE 221 Fundamentals of Ecological Engineering
 BEE 439 Irrigation Principles and Practices (3)
 BI 301 *Human Impacts on Ecosystems
 BI 306H Environmental Ecology
 BI 370 Ecology (3)
 BOT 313 Plant Structure (4)
 BOT 331 Plant Physiology (4)
 BOT 341 Plant Ecology (4)
 BOT 350 Introductory Plant Pathology
 BOT 414 Agrostology
 BOT 442 Plant Population Ecology (3)
 BOT 480 Photosynthesis and Photobiology
 BOT 488 Environmental Physiology of Plants
 CE 412 Hydrology
 CH 331 Organic Chemistry
 CH 332 Organic Chemistry
 CH 337 Organic Chemistry Laboratory
 CSS 320 Principles of Oil and Fiber Crop Production (EOU only)
 CSS 321 Principles of Cereal Crop Production (EOU only)
 CSS 322 Principles of Potato Crop Production (EOU only)
 CROP 280 Introduction to the Complexity of Oregon Cropping Systems

Commented [DAS13]: Unless we are trying to mirror the General Electives for both the Agronomy & Soils options, I think that AEC 211, AEC 221, AEC 372, AEC 442, AEC 444, BA 365, BA 463, BOT 414, BOT 442, and BOT 480 should be removed from the general electives list under the Soils option.

CROP/HORT 300 Crop Production in Pacific Northwest Agroecosystems
 CROP 310 Forage Production
 CROP 330 World Food Crops
 CROP 355 Organic Certification
 CROP/HORT 414 Precision Agriculture
 CROP 420 Seed Science and Technology
 CROP 440 Weed Management
 CROP/HORT 480 Case Studies in Cropping Systems Management
 ENT 311 Introduction to Insect Pest Management
 ENT 444 Insect Agroecology
 FE 430 Watershed Processes
 FE 434 Forest Watershed Management
 FES 240 Forest Biology
 FES 365 *Issues in Natural Resource Conservation (Cascades & Ecampus only) (3)
 FES 341 Forest Ecology
 FES 435/TOX 435 * Genes and Chemicals in Agriculture: Value and Risk
 FES 445 Ecological Restoration
 FES 477 Agroforestry
 FOR 417 Advanced Forest Soils
 FW 326 Integrated Watershed Management
 FW 445 Ecological Restoration
 GEO 101 *The Solid Earth (4)
 GEO 201 *Physical Geology (4)
 GEO 202 *Earth System Science (4)
 GEO 203 *Evolution of Planet Earth (4)
 GEO 221 *Environmental Geology (4)
 GEO 308 Global Change and Earth Sciences
 GEO 322 Surface Processes
 GEO 431 Environmental Geochemistry
 GEO 432 Applied Geomorphology
 GEO 484 Introduction to Biogeochemistry
 GEO 487 Hydrogeology
 GEOG 201 *Foundations of Geospatial Science and GIS
 GEOG 300 *Sustainability for the Common Good
 GEOG 340 *Introduction to Water Science and Policy
 GEOG 360 GIScience I: Geographic Information Systems and Theory
 GEOG 361 GIScience II: Analysis and Applications

HORT 212 Introduction to Organic Agricultural Systems
 HORT 260 Organic Farming and Gardening
 HORT 316 Plant Nutrition (4)
 HORT 318 Applied Ecology of Managed Ecosystems (3)
 MTH 251 *Differential Calculus
 MTH 252 Integral Calculus
 MB 230 *Introductory Microbiology
 MB 302 General Microbiology
 MB 303 General Microbiology Laboratory
 MB 448 Microbial Ecology
 PH 201 * General Physics
 PH 202 * General Physics
 RNG 341. Rangeland Ecology and Management (3)
 RNG 351 RANGELAND ECOLOGY 1: GRASSLANDS
 RNG 355 DESERT WATERSHED MANAGEMENT
 RNG 455 RIPARIAN ECOHYDROLOGY AND MANAGEMENT

SOIL 360 Soil Management for Organic Production
SOIL 366 Ecosystems of Wildland Soils
SOIL 388 Soil Systems and Plant Growth
SOIL 395 *^World Soil Resources (Ecampus only)
SOIL 435 Environmental Soil Physics
SOIL 445 Environmental Soil Chemistry
SOIL 455 Biology of Soil Ecosystems
ST 351 Introduction to Statistical Methods (4)
ST 411 Methods of Data Analysis (4)
TOX 430 Chemical Behavior in the Environment
WR 327 *Technical Writing
Z 349 *Biodiversity: Causes, Consequences, and Conservation