### University Core Requirements:
(No single course can satisfy more than one core area)

**Writing/Health**
- WR 121 – English Composition (3) *(Minimum passing grade of C–)*  
- WR II (3)  
- COMM (3)  
- Writing Intensive (HORT 318) (3)  
- HHS 231 – Lifetime Fitness for Health (2)  
- HHS 24_ – Lifetime Fitness or PAC (1)  
- Foreign Language (if deficient; waived for pre-1997 HS graduates)

**Perspectives**
(No more than 2 courses in one department)
- Cultural Diversity  
- Literature/Arts  
- Social Processes  
- Western Culture  
- Difference, Power, Dis.  
- Biological Science  *(Met by major requirements)*  
- Physical Science  *(Met by major requirements)*  
- Phys. or Biol. Science  *(Met by major requirements)*

**Math**
- MTH 105, 111, 112, 211, 241, 245, or 251 (4) *(Met by major requirements)*  
(Students must receive a grade of C– or higher, to continue on to the next math course)

**Synthesis/Upper Division – choose from provided list**
(Each course from a different department)
- Contemp. Global Issues (3)  
- Science, Technology, Society (3)  
- HHS 231 – Lifetime Fitness for Health (2)  
- HHS 24_ – Lifetime Fitness or PAC (1)  
- Foreign Language (if deficient; waived for pre-1997 HS graduates)

### Major Core:

**General Science**
- MTH 105, MTH 241, MTH 245, MTH 251, or ST 351 (4)
(Preq of C– or higher in MTH 111, or in MTH 112 if taking MTH 251)

**Plant Materials**
- CH 121 – General Chemistry (5) or CH 231 – General Chemistry (4)  
  and CH 261 – Laboratory for Chemistry 231 (1)  
- CH 122 – General Chemistry (5) or CH 232 – General Chemistry (4)  
  and CH 262 – Laboratory for Chemistry 232 (1)  
- CH 123 – General Chemistry (5) or CH 233 – General Chemistry (4)  
  and CH 263 – Laboratory for Chemistry 233 (1)
(Students must receive a grade of C– or higher, to continue on to the next chemistry course in the series)

**Agricultural Science**
- BI 211 – Principles of Biology (4)  
- BI 212 – Principles of Biology (4)  
- BI 213 – Principles of Biology (4)

**or the alternative BI 204–206 series:**
- BI 204 – Introductory Biology I (4)  
- BI 205 – Introductory Biology II (4)  
- BI 206 – Introductory Biology III (4)

**Ecology**
- HORT 318 – Applied Ecology of Managed Ecosystems (3)

**Technology**
- HORT 414 – Precision Agriculture (4)

**Horticultural Communication**
- HORT 318 – Applied Ecology of Managed Ecosystems (3) *(WIC)*  
- HORT 407 – Seminar (1)  
- HORT 411 – Horticulture Book Club (1)

**Capstone**
- HORT 481 – Horticulture Production Case Studies (4)

**Horticultural Production**
- HORT 300 – Crop Production in Pacific Northwest Agroecosystems (4)  
- HORT 360 – Irrigation/Drainage (4)  
- PBG 430 – Plant Genetics (3)

(Select 1 of the following courses)
- HORT 260 – Organic Farming/Gardening (3)  
- HORT 351 – Floriculture & Greenhouse Systems (4) *(alt. year)*  
- HORT 361 – Plant Nursery Systems (4) *(alt. year)*  
- HORT 451 – Tree Fruit Physiology & Culture (4)  
- HORT 452 – Berry & Grape Physiology & Culture (4) *(alt. year)*  
- HORT 453 – Grapevine Growth & Physiology (3)  
- HORT 454 – Principles & Practices Vineyard Prod. (3)  
- HORT 456 – Physiology & Production of Berry Crops (4)

**Horticultural Electives**
(Select a minimum of 9 credits from the above list or from the following list)
- CROP 280 – Introduction to Complexity of Oregon Cropping Systems (4)  
- SUS 325 – Ag. & Envir. Predicaments: Case Study Approach (3)  
- ENT 322 – Honey Bee Biology & Beekeeping (3)  
- HORT 199, 299, 399, 499 – Special Topics (1-16)  
- HORT 285 – Permaculture Design & Theory: Certificate Course (4)  
- HORT 314 – Principles of Turfgrass Maintenance (4)  
- HORT 444 – Insect Agroecology (3)  
- HORT 421 – Herbs, Spices & Medicinal Plants (3)  
- HORT 463 – Seed Biology (3) *(alt. year)*  
- HORT 480 – Case Studies in Cropping Systems Management (4)  
- HORT 499 – Intro. to Organic Certification (3)  
- PBG 441 – Plant Tissue Culture (4)  
- PBG 450 – Plant Breeding (4)  
- SOIL 316 – Nutrient Cycling in Agroecosystems (4)  
- SOIL 399 – Soil Management for Organic Production (3)  
- SOIL 455 – Biology of Soil Ecosystems (4)

### Sustainable Horticultural Production

**Option Requirements**
- **Term Entering:**
- From:

**Experiential Learning**
- HORT 403 or 410 – Thesis/Internship (6-12)
- HORT 412 – Career Exploration: Internships & Research Projects (1)

**Option Requirements**

**Plant Materials**
(Select 2 of the following courses)
- BOT 313 – Plant Structure (4)  
- BOT 321 – Plant Systematics (4)  
- BOT 323 – Flowering Plants of the World (3)  
- BOT 425 – Flora of the Pacific Northwest (3)  
- CROP 200 – Crop Ecology & Morphology (3)  
- FES 421 – Dendrology (3)  
- HORT 226 – Landscape Plant Materials I (4)  
- HORT 228 – Landscape Plant Materials II (4)  
- HORT 251 – Temperate Tree Fruit, Berries, Grapes, and Nuts *(alt. year)*  
- HORT 255 – Herbaceous Ornamental Plant Materials (3)  
- HORT 433 – Systematics & Adaptation of Vegetable Crops (4)

**Ecology**
- HORT 318 – Applied Ecology of Managed Ecosystems (3)

**Writing Intensive (HORT 318) (3)**

**Difference, Power, Dis. (HORT 318) (3)**

**Social Processes (HORT 318) (3)**

**Foreign Language (if deficient; waived for pre-1997 HS graduates)**

**HHS 231 – Lifetime Fitness for Health (2)**

**HHS 24_ – Lifetime Fitness or PAC (1)**

**Physical Science (Met by major requirements)**

**Biological Science (Met by major requirements)**

**Horticultural Communication**
- HORT 411 – Horticulture Book Club (1)

**Horticultural Production**
- HORT 481 – Horticulture Production Case Studies (4)

**Horticultural Electives**
(Select 1 of the following courses)
- CROP 280 – Introduction to Complexity of Oregon Cropping Systems (4)  
- HORT 444 – Insect Agroecology (3)  
- HORT 421 – Herbs, Spices & Medicinal Plants (3)  
- HORT 463 – Seed Biology (3) *(alt. year)*  
- HORT 480 – Case Studies in Cropping Systems Management (4)  
- HORT 499 – Intro. to Organic Certification (3)  
- PBG 441 – Plant Tissue Culture (4)  
- PBG 450 – Plant Breeding (4)  
- SOIL 316 – Nutrient Cycling in Agroecosystems (4)  
- SOIL 399 – Soil Management for Organic Production (3)  
- SOIL 455 – Biology of Soil Ecosystems (4)

**Horticultural Electives**
(Select a minimum of 9 credits from the above list or from the following list)
- CROP 280 – Introduction to Complexity of Oregon Cropping Systems (4)  
- SUS 325 – Ag. & Envir. Predicaments: Case Study Approach (3)  
- ENT 322 – Honey Bee Biology & Beekeeping (3)  
- HORT 199, 299, 399, 499 – Special Topics (1-16)  
- HORT 285 – Permaculture Design & Theory: Certificate Course (4)  
- HORT 314 – Principles of Turfgrass Maintenance (4)  
- HORT 444 – Insect Agroecology (3)  
- HORT 421 – Herbs, Spices & Medicinal Plants (3)  
- HORT 463 – Seed Biology (3) *(alt. year)*  
- HORT 480 – Case Studies in Cropping Systems Management (4)  
- HORT 499 – Intro. to Organic Certification (3)  
- PBG 441 – Plant Tissue Culture (4)  
- PBG 450 – Plant Breeding (4)  
- SOIL 316 – Nutrient Cycling in Agroecosystems (4)  
- SOIL 399 – Soil Management for Organic Production (3)  
- SOIL 455 – Biology of Soil Ecosystems (4)
Business Management
(Select 1 of the following courses)
- AEC 211 – Agricultural and Food Management (4)
- AEC 221 – Agricultural and Food Marketing (3)
- *AEC 250 – Introduction to Environmental Economics & Policy (3)
- *AEC 251 – Introduction to Agricultural & Food Economics (3)
- BA 260 – Introduction to Entrepreneurship (4)
- BA 365 – Family Business Management (4)
- NMC 311 – Introduction to Nonprofit Management (3)

Government and Policy
(Select 1 of the following courses)
- *AEC 243 – Global Poverty and Sustainable Development (3)
- *AEC 250 – Introduction to Environmental Economics and Policy (3)
- *AEC 251 – Introduction to Agricultural & Food Economics (3)
- *AEC 253 – Environmental Law, Policy & Economics (4)
- *AEC 351 – Natural Resource Economics and Policy (3)
- *AGRI 411 – Introduction to Food Systems: Local to Global (3)
- NR 201 – Managing Natural Resources for the Future (3)
- NR 202 – Natural Resource Problems and Solutions (3)
- NR 312 – Critical Thinking for Natural Resource Challenges (3)
- NR 325 – Scientific Methods for Analyzing Natural Resource Problems (3)
- *PS 201 – Introduction to US Government and Politics (4)
- *PS 205 – Introduction to International Relations (4)
- *PS 331 – State and Local Politics (4)
- *PS 458 – International Political Economy (4)
- PS 461 – Environmental Political Theory (4)
- PS 470 – Global Food Politics and Policy (4)
- PS 475 – Environmental Politics and Policy (4)
- *PS 476 – Science and Politics (4)
- PS 477 – International Environmental Politics and Policy (4)
- PS 478 – Renewable Energy Policy (4)
- *SUS 304 – Sustainability Assessment (4)
- *SUS 350 – Sustainable Communities (4)

Ecology & Sustainability Ecosystems Courses (Meets Synthesis Requirements)
(Each course must be from a different department)

Contemporary Global Issues
(Select 1 of the following courses)
- *AEC 351 – Natural Resource Economics & Policy (3)
- *AEC 352 – Environmental Economics and Policy (3)
- *BI 301 – Human Impacts on Ecosystems (3)
- *CROP 330 – World Food Crops (3)
- *FES 365 – Issues in Natural Resources Conservation (3)
- *FW 325 – Global Crises in Resource Ecology (3)
- *GEOG 300 – Sustainability for the Common Good (3)
- *GEOG 330 – Geography International Development & Globalization (3)
- *HORT/ENT 331 – Pollinators in Peril (3)
- *SUS 350 – Sustainable Communities (4)
- *Z 349 – Biodiversity: Causes, Consequences & Conservation (3)

Science, Technology and Society
(Select 1 of the following courses)
- *ANS 315 – Contentious Social Issues in Animal Agriculture (3)
- *ANS/FES/SOC 485 – Consensus and Natural Resources (3)
- *BL/Z 348 – Human Ecology (3)
- *BOT 324 – Fungi in Society (3)
- *CH 331 – Organic Chemistry (4)
- *CH 332 – Organic Chemistry (4)
- *CH 337 – Organic Chemistry Lab (4)
- *CH 374 – Technology, Energy, and Risk (3)
- *ENG 350 – Sustainable Engineering (3)
- *ENGR 363 – Energy Matters (3)
- *ENGR 379 – Environmental Case Studies (3)
- *FES/TOX 435 – Genes and Chemicals in Agriculture: Value and Risk (3)
- *FST 477 – Agroforestry (3)
- *FST 479 – Environmental History of the United States (4)
- *HSTS 421 – Technology & Change (4)
- *MB 230 – Introductory Microbiology (4)
- *NUTR 312 – Issues in Nutrition & Health (3)
- *PH 313 – Energy Alternatives (3)
- *PHL 325 – Scientific Reasoning (4)
- *PS 476 – Science & Politics (4)

Research Track (Optional)
- *HORT 406 – Projects: Data Presentations (1)
- *MTH 251 – Differential Calculus (4)
- *MTH 252 – Integral Calculus (4)
- *ST 351 – Introduction to Statistical Methods (4)

(Select 3 of the following courses)
- *BB 350 – Elementary Biochemistry (4)
- *BI 370 – Ecology (3)
- *BOT 341 – Plant Ecology (4)
- *CH 331 – Organic Chemistry (4)
- *CH 332 – Organic Chemistry (4)
- *CH 337 – Organic Chemistry Lab (4)
- *MB 230 – Introductory Microbiology (4)
- *PH 201 – General Physics (5)
- *PH 202 – General Physics (5)

Grade Requirements
Students pursuing a major or minor in horticulture are required to receive a grade of C– or better in all HORT (horticulture) and PBG (plant breeding and genetics) courses that are required for completion of their major and option, or minor. If a grade below C– is received for a course that is part of a group of courses where the student can select which courses to take (i.e., they do not need to take all of the courses, just a specified number of courses or credits) then it would be acceptable for the student to substitute a course for the one that they had a grade below a C–. For example, in most of our options, a student needs to complete three of four plant identification courses. If a student received a grade lower than a C– in one of the classes, they could either retake the same course or complete the other three courses with a grade of C– or better.