B.S. in Horticulture at Oregon State University – Curriculum

Name: _________________________________
ID: ____________________________
Entering Status: ____________________________

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 (BOT 323, SUS 325, or 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)

Synthesis/Upper Division – choose from provided list
(Each course from a different department)
Contemp. Global Issues (3)
Science, Technology, Society (3)

Major Core:
General Science
MTH 112, MTH 241, MTH 245, or MTH 251 (4)

(Prereq of C– or higher in MTH 111, or in MTH 112 if taking MTH 251)

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 next math course)

Synthesis/Upper Division – choose from provided list
(Each course from a different department)

Contemp. Global Issues (3)
Science, Technology, Society (3)

Major Core:
General Science
MTH 112, MTH 241, MTH 245, or MTH 251 (4)

(Prereq of C– or higher in MTH 111, or in MTH 112 if taking MTH 251)

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 next chemistry course in the series)

Synthesis/Upper Division – choose from provided list
(Each course from a different department)

Contemp. Global Issues (3)
Science, Technology, Society (3)

Major Core:
General Science
MTH 112, MTH 241, MTH 245, or MTH 251 (4)

(Prereq of C– or higher in MTH 111, or in MTH 112 if taking MTH 251)

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 next chemistry course in the series)

Agricultural Science
BOT 331 – Plant Physiology (4)
BOT 350 – Introductory Plant Pathology (4)
CROP 440 – Weed Management (4)
ENT 311 – Introduction to Insect Pest Management (4)
SOIL 205 – Soil Science (3) & SOIL 206 – Lab (1)
OR CSS 205 – Soil Science (4)

Orientation
HORT 112 – Introduction to Horticultural Systems, Practices, & Careers (2)

Horticultural Science
HORT 301 – Growth and Development of Horticultural Crops (3)
HORT 311 – Plant Propagation (4)
HORT 316 – Plant Nutrition (4)

Experiential Learning
PBG 403 or 410 – Thesis/Internship (3-12)
HORT 412 – Career Exploration: Internships & Research Projects (1)

Option: Plant Breeding & Genetics
Term Entering: ____________________________
From: ____________________________

Option Requirements

Plant Materials
(Select 1 of the following courses)
BOT 313 – Plant Structure (4)
BOT 321 – Plant Systematics (4)
BOT 425 – Flora of the Pacific Northwest (3)
CROP 200 – Crop Ecology & Morphology (3)
FES 241 – Dendrology (3)
HORT 226 – Landscape Plant Materials I (4)
HORT 228 – Landscape Plant Materials II (4)
HORT 251 – Temperate Tree Fruits, Berries, Grapes, and Nuts (2) alt. year
HORT 255 – Herbaceous Ornamental Plant Materials (3)
HORT 433 – Systematics & Adaptations of Veg. Crops (4)

Ecology
(Select 1 of the following courses)
BI 370 – Ecology (3) (Prereq of C- or higher in BI 211, 212, 213)
BOT 341 – Plant Ecology (4)
HORT 318 – Applied Ecology of Managed Ecosystems (WIC) (3)

Technology
PBG 441 – Plant Tissue Culture (4)

Agricultural Communication
CROP/HORT 407 – Seminar (1)
HORT 411 – Horticulture Book Club (1)

Capstone
PBG 450 – Plant Breeding (4)

Science and Technology
HORT 463 – Seed Biology (3) alt. year
PBG 430 – Plant Genetics (3)
ST 351 – Introduction to Statistical Methods (4)

Production and Technology
(Select 3 of the following courses, for 9 credits minimum)
BOT 332 – Lab Techniques in Plant Bio (3)
CROP 199 – Special Studies: Issues in Sustainable Ag (1)
CROP 280 – Introduction to Complexity of Oregon Cropping Systems (4)
CROP/HORT 300 – Crop Production in PNW Agroecosystems (4)
CROP 310 – Forage Production (4)
*CROP 330 – World Food Crops (3)
CROP 460 – Seed Production (3)
CROP 590 – Experimental Design in Agriculture (4)
CSS 320 – Principles of Oil & Fiber Crop Production (1)
CSS 321 – Principles of Cereal Crop Production (1)
CSS 322 – Principles of Potato Production (1)
HORT 260 – Organic Farming & Gardening (3)
HORT 351 – Floriculture & Greenhouse Systems (4) alt. year
HORT 360 – Irrigation/Drainage (4)
HORT 361 – Plant Nursery Systems (4) alt. year
HORT/ENT 444 – Insect Agroecology (3)
HORT 421 – Herbs, Spices & Medicinal Plants (3)
HORT 452 – Berry & Grape Physiology & Culture (4) alt. year
HORT 453 – Grapevine Growth & Physiology (3)
HORT 454 – Principles & Practices of Vineyard Production (3)
HORT 456 – Physiology & Production of Berry Crops (4)
MB 302 – General Microbiology (3)
MB 303 – General Microbiology Lab (2)
SOIL 316 – Nutrient Cycling in Agroecosystems (4)

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

OR
HORT 481 – Horticulture Production Case Studies (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)*
- *BI 348 – Human Ecology (3)*
- *BOT 324 – Fungi in Society (3)*
- *CH 374 – Technology, Energy, and Risk (3)*
- *ENGR 350 – Sustainable Engineering (3)*
- *ENGR 363 – Energy Matters (3)*
- *ENSC 479 – Environmental Case Studies (3)*
- *FES/TOX 435 – Genes and Chemicals in Agriculture: Value and Risk (3)*
- *FES/NR 477 – Agroforestry (3)*
- *FST 421 – Food Law (3)*
- *FW 470 – Ecology & History: Landscapes Columbia Basin (3)*
- *GEOG 300 – Sustainability for the Common Good (3)*
- *GEOG 340 – Introduction to Water Science & Policy (3)*
- *HORT 330/ENT 300 – Plagues, Pests, and Politics (3)*
- *HST 481 – Environmental History of the United States (4)*
- *HSTS 421 – Technology & Change (4)*
- *NUTR 312 – Issues in Nutrition & Health (3)*
- *PH 313 – Energy Alternatives (3)*
- *PHL 325 – Scientific Reasoning (4)*
- *PS 476 – Science & Politics (4)*
- *SOIL 395 – World Soil Resources (3)*
- *SUS 304 – Sustainability Assessment (4)*

Total Units (need 180) __________

Upper Div. Units (need 60) _______

**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)*

- *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)*

* = Meets bacc core requirement

Grade Requirements

Students pursuing an option in Plant Breeding and Genetics, under the Horticulture Major, and under the Crop & Soil Science Major, are required to receive a grade of *C*– or better in all BOT, CROP, CSS, FOR, HORT, MB, PBG, SOIL and ST courses required within their major and option.