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

Name: _____
ID: _____
Entering Status: _____

Option: ***Plant Breeding & Genetics***
Term Entering: _____
From: _____

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, CROP/SOIL 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) *(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) _____

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 the next chemistry course in the series)

_____ 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)

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
_____ CROP/HORT 101 – Intro. to Horticulture, Crop, Soil, & Insect Science (1)
OR
_____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 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)

(Select 1 of the following Writing Intensive Courses)
_____ BOT 323 – Flowering Plants of the World (WIC) (3)
_____ CROP/SOIL 325 – Ag & Environmental Predicaments (WIC) (3)
_____ HORT 318 – Applied Ecology of Managed Ecosystems (WIC) (3)

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 and 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)

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.