

## 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, 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) (*Met by major requirements*)

(Students must receive 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 the next chemistry course in the series)

\_\_\_\_\_ BI 211 or 221 – Principles of Biology (4)

\_\_\_\_\_ BI 212 or 222 – Principles of Biology (4)

\_\_\_\_\_ BI 213 or 223 – 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

\_\_\_\_\_ 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)

\_\_\_\_\_ SUS 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.