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

Option: Ecological Management of Turf, Landscape, and Urban Horticulture

Term Entering: ____________________________
From: ____________________________

Option Requirements

Plant Materials
(Select 1 of the following courses)

- HORT 226 – Landscape Plant Materials I (4)
- HORT 228 – Landscape Plant Materials II (4)

(Select 1 additional course from the above or below courses)

- BOT 313 – Plant Structure (4)
- BOT 315 – Plant Systematics (4)
- BOT 323 – Flowering Plants of the World (3)
- BOT 425 – Flora of the Pacific Northwest (3)
- FES 241 – Dendrology (3)
- HORT 251 – Temperate Tree Fruits, Berries, Grapes, and Nuts (2) alt. year
- HORT 255 – Herbaceous Plant Materials (3)
- HORT 433 – Systematics & Adaptations of Vegetable Crops (4)
- RNG 353 – Wildland Plant Identification (4)

Ecology

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

Technology
(Select 1 of the following courses)

- AG 312 – Engine Theory and Operation (3)
- FW 303 – Survey Geographic Information Systems in Natural Resource (3)
- GEOG 360 – GISCIENCE I: Geographic Information Systems and Theory (4)
- HORT 380 – Sustainable Landscape Design (3)
- 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
(Select 1 of the following courses)

- FES 445/FW 445 – Ecological Restoration (4)
- HORT 418 – Golf Course Maintenance (4)
- HORT 455 – Urban Forest Planning & Management (4)
- HORT 481 – Horticulture Production Case Studies (4)

Science and Technology of Managed Ecosystems

- GEOG 340 – Introduction to Water Science & Policy (3)
- HORT 314 – Principles of Turfgrass Maintenance (4)
- HORT 315 – Sustainable Landscapes: Maint., Conserv., Restor. (4)
- HORT 358 – Landscape Construction Techniques (4)
- HORT 360 – Irrigation/Drainage (4)

(Select 2 of the following courses, minimum 6 credits)

- *BI 301 – Human Impacts on Ecosystems (3)
- BOT 488 – Environmental Physiology of Plants (3)
- SUS 325 – Ag and Environmental Predicaments (WIC) (3)
- CROP 480 – Case Studies in Planting Systems Management (4)
- FES 445/FW 445 – Ecological Restoration (4)
- FW 462 – Ecosystem Services (3)
- GEOG 450 – Land Use in the American West (3)
- HORT 285 – Permaculture Design and Theory: Certificate Course (4)
- HORT 319 – Restoration Horticulture (3)
- *HORT 330/ENT 300 – Plagues, Pests, and Politics (3)
- HORT 350 – Urban Forestry (3)
- HORT 351 – Floriculture & Greenhouse Systems (4) alt. year
- HORT 361 – Plant Nursery Systems (4) alt. year
- HORT 405 – Pesticide Applicator Training (4)
- HORT 414 – Precision Agriculture (4)
- HORT 418 – Golf Course Maintenance (4)
- HORT/ENT 444 – Insect Agroecology (3)
- HORT/FE 447 – Arboriculture (4)
- HORT 455 – Urban Forest Planning & Management (4)
- HORT 481 – Horticulture Production Case Studies (4)
- HORT 485 – Advanced Permaculture Design (3)
- HORT 499 – Building Sustainable Landscapes for the 21st Century (1)
RNG 355 – Desert Watershed Management (3)
RNG 421 – Wildland Restoration and Ecology (4)
SOIL 316 – Nutrient Cycling in Agroecosystems (4)
SOIL 455 – Biology of Soil Ecosystems (4)
*SUS 304 – Sustainability Assessment (4)
WSE 111 – Renewable Materials for a Green Planet (2)
WSE 475 – Environmental Assessment of Building Materials (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)

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)
*BIO 301 – Human Impacts on Ecosystems (3)
*CROP 320 – World Food Crops (3)
*FES 365 – Issues in Natural Resources Conservation (3)
*FW 325 – Global Crises in Resource Ecology (3)
*GEOG 330 – Geography International Development & Globalization (3)
*HORT/ENT 331 – Pollinators in Peril (3)
*SUS 350 – Sustainable Communities (4)
*WSE 470 – Forests, Wood, and Civilization (3)
*Z 349 – Biodiversity: Causes, Consequences & Conservation (3)

Science, Technology and Society
(Select 1 of the following courses)
*AGRI 411 – Introduction to Food Systems: Local to Global (3)
*ANS 315 – Contentious Social Issues in Animal Agriculture (3)
*ANS/FES/SOC 485 – Consensus and Natural Resources (3)
*BIO 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)
*HEST 310 – Intro to Community Engagement/Comm.-Based Design (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)
BIO 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 in a HORT or PBG course required for their major and option, or minor, a student will need to retake the course and receive a grade of C– or better. If the grade below a C– was 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 received 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.