Students pursuing the Systems Minor should use this worksheet to plan their course of study, in consultation with the undergraduate advisor at systemsminor@pdx.edu

Six courses should be chosen from the following, Two of which must be 400+ classes:

- **EAS 333U**: Problems, Solutions, and Systems Thinking
- **ESM 220**: Introduction to Environmental Systems
- **ESM 221**: Applied Environmental Studies: Problem Solving
- **Phi 322U**: Minds and Machines
- **Phi 470**: Philosophy of Science
- **Sci 313U**: Environmental Mathematical Modeling
- **SySc 330U**: Models in Science
- **SySc 332U**: Introduction to Agent-Based Modeling
- **SySc 334U**: Modeling Social-Ecological Systems
- **SySc 336U**: Networks and Society
- **SySc 338U**: Decision Making in Complex Environments
- **SySc 346U/CS 346U**: Exploring Complexity in Science and Technology
- **SySc 350U**: Indigenous and Systems Perspectives on Sustainability
- **SySc 413**: Holistic Strategies for Problem Solving
- **SySc 416**: Systems Thinking for Business
- **SySc 421**: Systems Philosophy
- **SySc 423**: Systems Ideas and Sustainability: Limits, Structural Change, and Resilience
- **SySc 431**: Data Mining with Information Theory
- **SySc 452**: Game Theory

Clusters key:

- **R**: 400 or above
- **E**: any level

A total of at least 24 credits is required for the minor in the Systems. All courses must be graded A through F (pass/no pass option is not acceptable) and all courses must be passed with a grade of B- or higher.