

# Plants & Python: A series of lessons in coding, plant biology, computation, and bioinformatics

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## Abstract

Computation, modeling, and mathematics have always inspired discoveries in plant biology and vice versa. The importance of these fields will only continue to grow in a data-driven, interdisciplinary future. People and cultures across the world have scientifically contributed to modern plant biology. As we confront global grand challenges, collaboration across cultures and languages will be increasingly important. Yet, because of gatekeeping, coding literacy and intercultural communication in the plant sciences are not as widespread as they can, or should, be. To address these challenges, we designed Plants & Python as a bilingual curriculum in English and Spanish, assuming no prior experience in coding or knowledge about plant biology. This series of lessons teaches coding learning objectives in Python, a general programming language, using datasets and mathematical examples inspired by plants. Whether used in a classroom or for self-directed learning, the lessons cover coding essentials in Python, how to use UNIX command line, and bioinformatics. Whether plant biologist or computational scientist, whether coming to these lessons speaking English or Spanish, Plants & Python provides a common starting point for interdisciplinary and intercultural collaboration in the plant and computational sciences.

[Click HERE to access Teaching Tool Components](#)

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