

8-10-2022

Teaching Programming to 1,400 Business Students per year

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Recommended Citation

Doyle, Mart; Lavin, Amy; and Sclarow, Steve, "Teaching Programming to 1,400 Business Students per year" (2022). *AMCIS 2022 TREOs*. 17.

https://aisel.aisnet.org/treos_amcis2022/17

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AMCIS: Teaching Programming to 1,400 Business Students per Year

TREO Talk Paper

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Abstract

If programming is the “Reading, Writing and Arithmetic” of the digital age, why do so few MIS programs teach programming to Business students in their intro to MIS course? While some schools have a cursory introduction to programming, very few dedicate over 1/3 of their intro to MIS courses to programming.

This TREO talk is about sharing experiences teaching programming to Business students and teaching it at scale. At Temple University, roughly 1,400 Business students enroll in the introductory MIS course each academic year. The typical section size consists of 100-120 students and is taught synchronously both in-person and online. This course dedicates 5-1/2 weeks out of a 14-week semester to teaching Business students JavaScript programming. Most students don’t know what a variable is at the start of the programming content. We cover everything from variables to loops to interacting with HTML in this 5-1/2-week coursework component. This provides a launchpad for a deeper understanding of programming and a foundation for MIS majors and their upcoming MIS courses. Non-MIS majors develop a genuine understanding of what exactly a program is and what can be done with code.

Implementation of the programming component of MIS2101 did not occur overnight. We started the process in deep discussions at the department and industry level to determine which programming language to introduce into the curriculum. JavaScript was ultimately selected, and we found a textbook that would support the goals and then developed the corresponding lecture/discussion material. We understood that introducing 1400 students to JavaScript alongside some of the instructors who had never taught programming before would be tricky, and we piloted the material in a small, Honors section of the introductory course. We invited the students to actively participate in the pilot program, requesting feedback along the way which enabled us to iterate our content too.

What we discovered enabled us to expand the course to all sections the following semester. We learned that Activity-Based Learning would be the cornerstone of the experience. Each week, students were taught the basics of JavaScript and then put to work. Through hands on in class activities, students were writing “Hello World” in the text editor by the second day of class.

Topics for Discussion include:

1. Teaching JavaScript at scale in terms of total number of students and large class sizes.
2. Teaching more than a cursory overview of programming to Business students.
3. Challenges for faculty who do not have a programming background.
4. Evaluating programming assignments at this scale.
5. Creating and administering programming exams at scale.

We will discuss the challenges, lessons learned, and specific methods used implementing this initiative at this scale. We will discuss our solutions to these challenges and facilitate and exchange of ideas about other approaches to these kinds of issues.