CASE STUDY

Codio and Southern New Hampshire University

Using Codio at scale to support CS and STEM programs

About SNHU

Southern New Hampshire University STEM programs comprise 250 courses teaching over 11,000 students with over 4,000 in computer science-related fields. SNHU programs are almost 100% online.

250
STEM Courses

11,000
Students

~100%
Online

Written By:

Gwen Britton, PhD is Academic Associate Vice President, Global Campus - STEM and Business Programs at SNHU, and by training, a software engineer, artist, mathematics expert, and leading light in the Women in Technology movement.

How Codio is Used at SNHU

We use Codio widely and extensively at SNHU. We have a team of subject matter experts and instructional content designers developing and leading courses that are now much more applied in nature.

Before we began working with Codio in 2016, students had to download an SDK, install something like Eclipse, and by the time we had solved setup and configuration issues, many students were failing while instructors were struggling to find a path forward.

In that context, once I'd seen the flexibility, power, and scale of Codio, the platform seemed a perfect fit to put technology in the hands of every student and to really scale what we're trying to do with our STEM programs.

Courses Taught Using Codio

We continue to expand the number of courses running on Codio. Currently, we use Codio to deliver the following online courses:

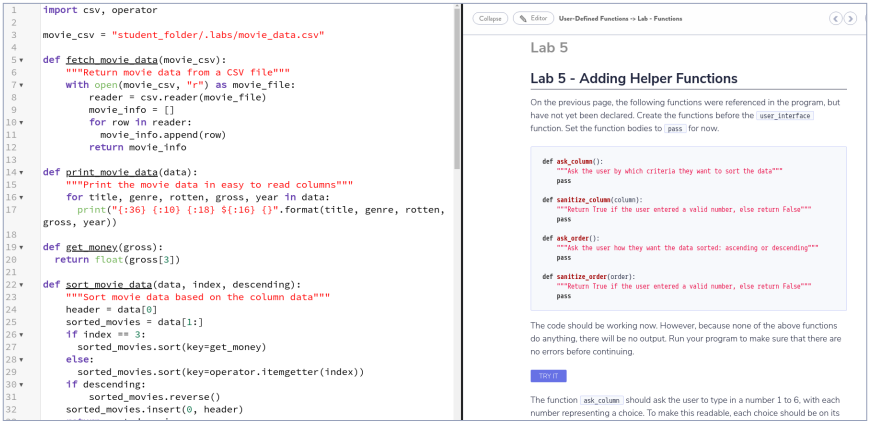
- Data Analytics
- Applied Statistics
- Introduction to Programming in Python
- Java Programming
- Linux
- R
- Web Development
- Database Management
- Secure Coding
- Scripting

Authoring Courses in Codio

I love authoring in Codio. I like the side by side presentation of the curriculum with applied examples.

It's been really easy to build out formative assessments. I like the ability to invoke another window, to change and modify content. The power and control to be able to adapt, iterate, publish, and re-use course content semester-to-semester is amazing.

More than that, the students love it and they're successful in completing the course.



> **"The power and control to be able to adapt, iterate, publish, and re-use course content semester-to-semester is amazing."**

Why We Selected Codio

Initially, our courses were very theoretical and we needed to make them more applied. However, we were always dogged with setup and configuration issues—the ability to put a cloud platform to use with all our students while simultaneously fixing the setup and configuration issues has been a huge benefit from the outset.

More broadly, the main reasons driving our choice of the Codio platform were:

- Scalability, the ability to configure environments of any complexity and share these with students instantly
- The authoring tools and the ability to make all our courses more applied with auto-graded practical assessments
- The assessments engine and the ease with which we can author and integrate auto-graded assessments
- Immediate access to student code
- The flexibility to adapt, iterate, publish, and re-use course content
- The reduction in VM costs as each student gets a fully configured environment for each teaching unit and assignment

“The flexibility, the power, the control, and the scale. It’s so easy to scale, that’s my favorite part.”

Benefits Experienced

There have been many key benefits to using Codio at SNHU.

Overall, the ability to create highly immersive and engaging course materials at scale has been a tremendous advantage. Each student, regardless of device and operating system has a consistently high-quality environment in which to engage with course materials.

When curating courses for online delivery, you need authoring tools that make it very easy to update, modify, clone or replicate, and then propagate across a range of deployed courses, e.g. 25-30 sections of Python programming.

The platform also has extensive support for assessments and auto-grading including a new assessments library, all set up with auto-grading and instant rich feedback for students. Instructors also have one-click instant access to student code which makes for significant time savings.

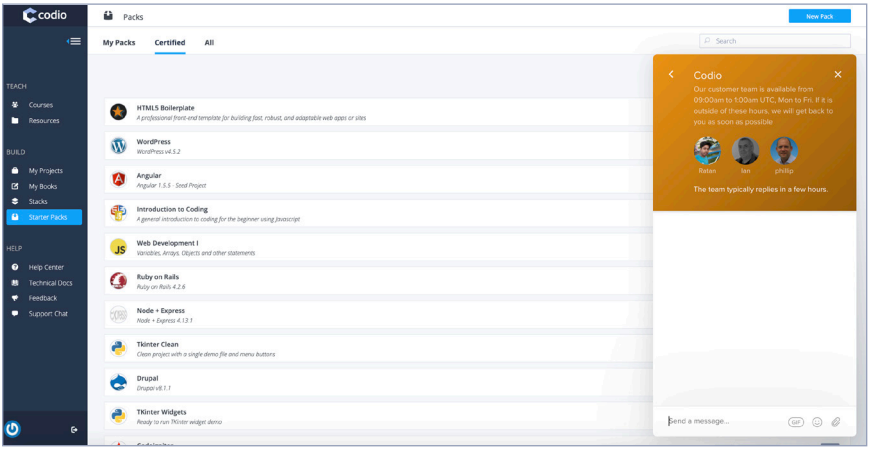
There is also a strong academic user community, so when other academics make resources public in the platform, this provides a very valuable resource bank for the community to use. For example, we've made use of Jupyter notebooks and have found many useful resources within the community.

"Instructors have one-click access to student code which makes for significant time savings."

Codio's Support Team

Codio's support team has been a real asset: they're responsive, fast to resolve issues, and whenever we have more detailed problems to solve, we have access to their technical and education teams who are all trained computer scientists with years of teaching experience.

The platform is easy to use, and there is extensive documentation, round-the-clock support, and a library of excellent videos on key use-cases to help people get started fast.



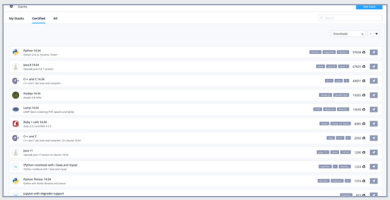
> **"The platform is easy to use, and there is extensive documentation, round-the-clock support, and a library of excellent videos on key use-cases to help people get started fast."**

Potential Future Use of Codio

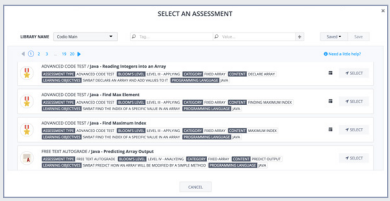
There is tremendous potential to expand the use of Codio at SNHU.

We're in the process of rebuilding all tech-related undergraduate and graduate programs, including CS, IT, and Cyber, as well as moving into the Data Science space, and Codio can support our effective course delivery in all of these fields.

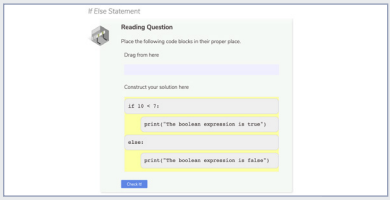
FEATURES MENTIONED IN THIS CASE STUDY:



Massively scalable infrastructure that provides a consistently high-quality experience regardless of a student's setup. No matter your class size or requirements, Codio's infrastructure scales to support your needs.



An auto-graded assessments library, containing hundreds of customizable, auto-graded assessment questions covering a wide range of topics, difficulty levels, and assessment types.



Instant student feedback gives students an immediate, rich explanation of their work. Students will get a sense of their understanding of the material immediately after they are introduced to it as they attempt more difficult problems.

Bring your vision of CS education to life with Codio.
Schedule a demo today at: codio.com/getstarted


codio