

# 1-Credit “How-To” Course Implementation in the Creative Technology and Design Program

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## Summary

This report details the implementation of a series of 1-credit short courses within an existing curriculum. Specifically, this document details the implementation of 1-credit courses in the Creative Technology & Design (CTD) program in the ATLAS Institute at the University of Colorado Boulder. These courses will be delivered with the course prefix of “How-To,” providing opportunities for students to either 1) apply skills learned in other courses and contexts to hyper-specific application areas or 2) learn specific skills or content that are deemed important and exciting, but not substantive enough for a full 3-credit, 15-week course. Implementing these courses within our existing curriculum will enable the curriculum to be hyper-mobile and responsive to changing trends and student interests.

## Challenge

The CTD curriculum is broad – students take 3 “foundations” courses and 7 “core” courses that expose them to topics and skills such as image making, the design of websites, 3d printing for fabrication and prototyping, physical computing, and sound making. With such a broad curriculum, there are many topics that students might find interesting and relevant to those core topics but are not integrated into the current courses or upper-level elective courses offered in the program. This is a gap in our student experience that should be remedied.

## Project Description

Working with the department leadership and department advisor, I completed two major milestones.

### Milestone 1 – Set-up Test Run of 1-Credit Courses

For the FA24 semester, we decided to run two “How-To” courses to address specific needs that we believe our students have. These two courses are:

- Pedagogy – a course for our undergraduate learning assistants to help develop as classroom leaders. Modeled after a similar offering in Penn State’s College of IST, this course will run for the first five weeks of the semester, offering students hands-on time

to discuss teaching and managing a classroom and exposing them to pedagogical considerations. It also provides space for discussing issues they encounter early in the semester regarding LAing.

- Portfolios – a course for students interested in developing their professional personas. Modeled after a similar offering in the Department of Information Science, this course will run for the second 5 weeks of the semester, offering students hands-on time to critique their resumes, portfolios, LinkedIn, and other professional identity artifacts.

Future offerings of “How-To” courses might include other courses like these that we feel are important. As discussed previously, they might also be more elective-style courses that dig into specific skills or topics that leverage students’ prior knowledge and coursework.

## Milestone 2 – Curriculum Changes to Incorporate 1-Credit Courses

It was important to us that these 1-credit courses fit into our curriculum and that students benefit from not only taking them but also that taking them counts towards student degree progress. To solve this problem, we looked carefully at our curriculum to identify places to count 1-credit courses towards a specific degree requirement.

College of Engineering and Applied Science (CEAS) students take a 3-credit “projects” course during their first year at CU Boulder. These courses (ASEN 1403, GEEN 1400, and ECEN 1400) are designed to give students experience working in groups with other engineering students early in their degree when their other coursework may not incorporate group work or formal collaboration.

Students who do not take one of the “projects” courses during their first year (e.g., they are late transfers into CEAS) can still take these courses, or they can take an approved focus (project) elective later in their academic career<sup>1</sup>.

The CTD major uses a project-oriented curriculum from the first course, rendering this “projects” course at the CEAS level less relevant to our majors, even those who might switch to CTD later in their academic careers. Students who do not take the “projects” course in their first year of engineering often take an additional “focus elective” of their choosing.

To accommodate the addition of 1-credit courses, CTD students will:

- Be able to take three (3) 1-credit courses to fulfill the “projects” course requirement.
- Be able to take the three (3) 1-credit courses as a replacement for one (1) focus elective course.

<sup>1</sup><https://www.colorado.edu/engineering-advising/recommended-first-semester-courses-major>



Figure 1: CTD Curriculum (as of SP2024)

In the longer term, to make space in our curriculum for mandatory 1-credit courses, a few changes are feasible and so worth exploring:

1. We could formally remove the “projects” course requirement for CTD majors (not reflected in Figure 1).
2. We could change an existing “focus” elective requirement into a 1-credit course requirement (changing a yellow hexagon in Figure 1).
3. We could remove the “Computational Foundations II” requirement (which is four (4) credits) in favor of a 3-credit bucket for 1-credit courses. The fourth credit would be usable for either 1) a fourth 1-credit course OR 2) for students to take the first-year engineering seminar (COEN 1830) (removing one of the blue hexagons in Figure 1 in favor of a 1-credit course bucket).

These possibilities will be revisited after the initial run of 1-credit courses in the FA24 semester.

## Outcomes

While the initial outcome of this project will not be known until after the first iteration of these courses run in the FA24 semester, we hope that these courses will enrich the student experience and provide faculty members with opportunities to teach topics that might otherwise go untaught because of the constraints of a traditional academic semester. In summary, this course series should allow us to remain flexible to changing industry and practice trends and students’ needs and wants.

We will also continue to explore how to include 1-credit courses in our curriculum plan formally and as part of students' degree audits, as discussed in Milestone 2.

## Reflection on Faculty Fellows Participation

I sincerely appreciated the opportunity to participate in the 2023-2024 CTL and ASSETT Faculty Fellows Cohort. Beyond the reading, thinking, and discussions that happened in the fall, the opportunity to engage with other faculty members on campus about teaching, learning, and mentorship is invaluable to me, and I specifically appreciate that I am starting to see familiar faces in other CTL/ASSETT offerings as well as in other places on campus.

## 1-Credit Courses (FA24)

For each course below, a brief description and meeting pattern is provided.

### How-To: Pedagogy

#### **Course Description:**

A seminar course for first-time LAs and TAs. Helps prepare students for a leadership role in an “active learning” classroom.

The more you know about learning, the better prepared you will be to diagnose and solve teaching/learning problems. This class will introduce you to teaching and learning principles that will be valuable when assisting instructors and students as an LA. We will also address skills such as coaching learners, facilitating discussion, providing feedback, and evaluating work; issues of academic integrity and supportive environments for learning; and information technologies used for managing courses and increasing engagement and learning. This is a hands-on course where students create instructional materials, participate in role-play scenarios, and work with learning artifacts.

#### **Meeting Pattern:**

Meets once a week for ~2-2.5 hours for the first five weeks of the semester. This course will need to be offered in both fall and spring semesters (to accommodate new LAs/TAs in the spring semester) and is offered during the first five weeks to provide targeted support to new LA/TAs.

### How-To: Portfolios

#### **Course Description:**

A working seminar for CTD students to acquire competencies for launching a career. Portfolios will help students successfully present themselves as highly qualified individuals who can convey

what they know and what skills they have online and through writing, interviews, and conversations.

**Meeting Pattern:**

Meets once a week for ~2-2.5 hours for five weeks of the semester.