



College of

EDUCATION

Department of Teaching and Learning

STEAM Education Certificate Handbook

2022-2023

Updated June 16, 2022

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Table of Contents

INTRODUCTION	3
PROGRAM CONTACTS	3
POLICIES AND RESOURCES	3
PROGRAM GOALS	3
PROGRAM REQUIREMENTS	3
ACADEMIC PROBATION	4
ONLINE ENVIRONMENT	4
Required Writing Style	5
Required Technologies	5
Required Technical Skills	5
Technical Support Resources	6
Clemson Computing & Information Technology (CCIT)	6
Canvas Support	6
ACADEMIC INTEGRITY	7
COMMUNICATION WITH INSTRUCTORS AND CLASSMATES	7
Communicating through Canvas	7
Setting Your Canvas Notifications	7
Google Apps for Education Email	7
Two-Factor Authentication	8
GRADUATE CERTIFICATION PROGRAM PROCEDURES	8
RELEVANT UNIVERSITY RESOURCES	8
Registration and Payment	8
Academic Support Services	8
Student Support Services	8

INTRODUCTION

Welcome to the Department of Teaching and Learning at Clemson University's College of Education and the STEAM Education certificate program. We wish you success at every stage of your academic journey.

This handbook is intended to familiarize you with the policies and procedures of Clemson University, the Graduate School, and the College of Education. Each student is expected to be familiar with the contents of this handbook. The policies and procedures presented here are in addition to and subordinate to those described in the Graduate School Announcements, which you can find at <http://catalog.clemson.edu/>.

PROGRAM CONTACTS

Program Coordinator and Student Services Manager – Julie Jones, jgambre@clemson.edu
Department Chair – Dr. David Fleming, dflemin@clemson.edu

The Program Coordinator is your first contact should any issue arise regarding your academic progress or the program curriculum.

POLICIES AND RESOURCES

[University Policies](#)
[Graduate School Policy Handbook](#)
[Graduate School Resources](#)
[Graduate School New Student To Do List](#)

PROGRAM GOALS

The STEAM Education certificate builds a conceptual foundation that prepares teachers, instructional coaches and technology integration specialists to design and implement STEAM instruction in classrooms using a transdisciplinary approach. This certificate program is designed to meet outcomes such as:

- Conceptualize STEAM education through the adoption of a research-based instructional model
- Design a STEAM instructional unit focused on authenticity, relevance, inquiry and problem-based learning
- Explore and integrate student-centered technologies in STEAM teaching, learning and assessment
- Develop formative and summative assessments aligned with STEAM learning objectives
- Implement and reflect on STEAM teaching

PROGRAM REQUIREMENTS

The STEAM Education Certificate requires the completion of a four-course sequence. All courses are three credit hours and are taught asynchronously online. Courses must be completed in order following the sequence listed below:

ED 8700 STEAM Instructional Design (fall) Focuses on STEAM instructional design for teachers, including subject-matter alignment, discipline integration, and ways to employ problem-solving skills. Emphasizes STEAM-based practices such as problem-based, inquiry-rich, authentic tasks, and ways to integrate technology across the curriculum.

ED 8710/8711 STEAM Transdisciplinary Teaching (spring) Focuses on STEAM-based instructional approaches, including the ways in which teachers structure the classroom environment, tasks, and resources to facilitate deep learning. These instructional approaches include problem-based, student-driven, authentic tasks, and technology integration, and supports for equitable participation.

ED 8730 STEAM Assessment (summer) Focuses on assessment practices the support learning, including the iterative process of refining instruction and evaluating learning in a real-world context using multiple forms of data. Assessment types include authentic, embedded, incorporate regular feedback, and drives adjustments to teaching.

ED 8720/ED 8721 STEAM Enacted and Evaluated (fall) Focuses on the ways to implement the STEAM teaching beyond the classroom to create leaders in the pedagogy. Emphasizes evaluation, feedback and changes in practice, and examines and utilizes the STEAM Observation to help school teachers understand STEAM teaching and learning.

ACADEMIC PROBATION

Graduate students who fail to meet the following minimum academic standards for graduate studies at Clemson University are placed on academic probation. These minimum standards include a minimum B average (3.0 grade point average) in:

- All graduate-level courses
- All courses listed in the Plan of Study (Form GS2)
- All courses (undergraduate and graduate) since admission to the Graduate School, excluding those taken on a pass/fail basis

A minimum grade of C on any coursework must be made for the course to apply toward a degree. Students who fail to meet these requirements become ineligible for graduation and remain on academic probation until they earn the requisite 3.0 grade point average or are dismissed.

Graduate students placed on academic probation should meet with their major advisor and/or graduate program coordinator to ensure that the expectations for removal of the probationary status are clearly defined and understood. Graduate students on academic probation must submit a [Graduate Student Plan for Success](#) form no later than the date specified in the probation notification (typically around the beginning of classes for the next term).

Further details can be found in the [Graduate School Policy Handbook](#).

ONLINE ENVIRONMENT

With the support of CU Online, Clemson uses the most advanced online technology to provide a rich, supportive, seamless learning environment. Courses are asynchronous thus allowing students to access courses when and where they need. While students have great flexibility in asynchronous learning, there are key deadlines in each course when learning modules must be completed. Students will be provided with timely support from instructors and technology

personnel so that learning is maximized. [Canvas](#), a very user-friendly learning management system, is used for all courses to guide the learning experiences.

An orientation module is provided within each enrolled student's [Canvas](#) account before the start of the program to allow students to become comfortable with expectations and the technologies before classes formally start. This orientation module provides you with the resources you need to succeed in your courses and is intended to supplement the [University's Graduate School Policy Handbook](#). Here, you'll find information about:

- Required Texts
- University and Program Policies
- Technical Support and Technology Tutorials
- University Resources and Academic Support Services
- Academic Writing and Citation Guidelines
- Lesson Plan Templates

All students are required to complete the Orientation Module prior to starting coursework.

Required Writing Style

STEAM Education certificate students are expected to utilize APA (American Psychological Association) Style for all course assignments unless directed otherwise by your instructor. Information regarding APA style can be found on the [APA Style website](#). The [Publication Manual of the American Psychological Association](#) is recommended for all students.

Required Technologies

To successfully fulfill the requirements of your degree program, you will need access to:

- **A laptop or desktop computer.** While you can access your courses through Canvas's mobile apps for [iOS \(Links to an external site.\)](#) and [Android \(Links to an external site.\)](#) devices, you will still need a laptop or desktop computer to complete your research and writing activities. While you can complete most activities on a Chromebook, we strongly recommend that you have access to a computer that can run Microsoft Word because Google Docs does not have robust enough formatting features to allow for correct APA formatting.
- **A reliable internet connection.** It's also a good idea to have a contingency plan in case your internet connection fails right before an assignment is due. If you cannot travel to another location, then consider temporarily using your mobile phone as a hotspot.
- **An up-to-date browser ([Links to an external site.](#))**. Canvas is designed to work in all browsers, but in general, users tend to have a smoother experience in Chrome and Safari.
- **Microsoft Office 365 programs**, including Word and PowerPoint. These are freely available to download for all Clemson students via [CCIT's website \(Links to an external site.\)](#).
- **A web conferencing service** such as Zoom which is freely available to download for all Clemson students via [Clemson Online's website \(Links to an external site.\)](#).
- **Speakers or headphones** to listen to audio and video resources.
- Additional technologies as specified in your course syllabus; these may include a webcam or other recording device and screencasting or video production programs.

Required Technical Skills

To be successful in this program, students must have a minimum working knowledge of their computer system, web browser, and word processing program. You will need to be able to:

- Use your password to log in to your class before the semester begins
- Attach files to email messages
- Compose written documents in a word processor such as Microsoft Word or Google Docs
- Complete word processing tasks (type, cut, paste, copy, name, save, rename, etc.)
- Download information from the Internet
- Navigate to a page on the Internet
- View online videos like those on YouTube
- Complete online forms
- Access and read files such as Microsoft Office documents and PDFs
- Backup your files
- Install and maintain an antivirus program and other software
- Use technology as required by course instructors and seek online tutorials and help features to support your use of required hardware/software

Technical Support Resources

There are multiple types of technical support available to Clemson students enrolled in online graduate programs. Below, you'll find an overview of each support service and guidelines on when to use each service.

Note: *If a problem with Canvas or another university system will prevent you from submitting an assignment on time, contact your instructor and CCIT immediately. If necessary, s/he can work with you to make alternative arrangements.*

Clemson Computing & Information Technology (CCIT)

[CCIT](#) should be your first point of contact for any issues related to University systems and software. To access CCIT support, you may email ITHELP@clemson.edu or call (864) 656-3494. CCIT also offers support via [live chat](#).

Contact CCIT for help related to:

- [Usernames and passwords](#)
- [Email](#)
- [iROAR](#)
- [University software](#)
- [Two-factor authentication](#)

Note: *If you are having trouble logging in to Canvas, contact CCIT.*

Canvas Support

While you may contact CCIT for help with Canvas-related questions and/or issues, Canvas offers 24/7 on-demand technical assistance via [live chat](#). To access Canvas support, click "Help" on the Canvas navigation menu, then identify the type of support you need. You may also consult the [Canvas Student Guide](#) to learn more about functions within Canvas.

Contact Canvas support with Canvas-related problems or questions about how to perform different actions within Canvas, including:

- Accessing course content
- Submitting assignments
- Replying to discussion posts
- Uploading files

- Recording audio or video

ACADEMIC INTEGRITY

Students in the STEAM Education certificate program are expected to abide by the Academic Integrity policies outlined in [Clemson's Graduate School Policy Handbook](#) at all times. Forms of academic dishonesty include (but are not limited to):

- Cheating
- Fabricating or falsifying information
- Facilitating violations of academic integrity
- Failing to cite contributors
- Plagiarizing, including self-plagiarism
- Thwarting others' progress
- Submitting work completed by someone else to fulfill course requirements

Consult the [Graduate School Policy Handbook](#) for a detailed description of these violations and the penalties that they incur.

COMMUNICATION WITH INSTRUCTORS AND CLASSMATES

For security reasons, your instructors will only communicate with you through official University channels. You should also use official University channels to communicate with your instructors and classmates. Most communications will take place in Canvas, our learning management system.

Communicating through Canvas

Students should use Canvas's internal messaging system (available by clicking "Inbox" on the navigation menu on the left) to contact their instructors and classmates. It is important to note that Canvas is a professional tool utilized for teaching and learning purposes. All conversations within Canvas are expected to be purposeful, professional, and enhance each student's learning process. For more information on sending and receiving messages in Canvas, consult the [Canvas Student Guide](#).

Setting Your Canvas Notifications

Your instructors will also use Canvas to post announcements. To ensure that you receive communication from your instructors in a timely manner, you should elect to receive notifications for Canvas announcements and conversations. Visit Canvas's ["How do I set my notification preferences?"](#) guide for detailed instructions. You can also elect to receive notifications via text message, push notifications, or additional email addresses. For details on adding additional methods of contact to your Canvas account, visit Canvas's ["How do I add contact methods to receive notifications?"](#) guide.

Google Apps for Education Email

It is important for you to check your University email regularly so that you do not miss important announcements and updates.

Clemson students use Google Apps for Education email. To set up your email account (which will have a separate password than your Clemson account), visit CCIT's [email guide for incoming students](#). To access your student email, visit g.clemson.edu. As part of your Google Apps for Education account, you will also have access to Clemson-specific instances of Google Drive, Google Hangouts, Google Sites, and Google Calendar.

You can also elect to have your [Clemson email forwarded to a personal address](#). If you do this, be sure to log in to your Clemson account before responding to your instructors.

Two-Factor Authentication

To safeguard against phishing attempts and other cybersecurity threats, Clemson requires two-factor authentication (2FA) for several university systems. To access these systems, you will need to enter your password, then verify your identity with a physical device (mobile device or landline) that is in your possession at the time you request access. Visit [Clemson's 2FA site](#) to enroll in 2FA and register/manage devices.

GRADUATE CERTIFICATION PROGRAM PROCEDURES

Submission of the Graduate Certificate Curriculum form, found on the Graduate School's webpage, triggers program completion verification by the Enrolled Student Services Office. This includes validation of coursework and final grades along with appropriate signatures listed on the Certificate Plan of Study. The certificate will be recorded on the transcript and a certificate will be issued. The certificate will bear the signature of the University registrar.

RELEVANT UNIVERSITY RESOURCES

Registration and Payment

- [Registrar's Office](#)
- [iROAR](#)
- [Student Financial Services](#)
- [Financial Aid](#)

Academic Support Services

- [Writing Lab](#)
- [Academic Success Center](#)
- [Clemson Libraries](#)

Student Support Services

- [Student Accessibility Services](#)
- [Office of Access and Equity](#)
- [Preferred Name Policies and Procedures](#)
- [Counseling and Psychological Services](#)
- [Clemson Ombudsman \(Conflict Resolution\)](#)
- [Academic Grievances](#)
- [Center for Career and Professional Development](#)