

# Course Syllabus

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## **This is ELEM 6430, MAT Science Methods.**

This course is designed for students registered for the fully-online Master of Arts in Teaching, Elementary Education. By the end of this course, you will be better prepared to provide thoughtful, meaningful, and effective science learning experiences to P-5 students from diverse backgrounds, in alignment with both the Georgia Standards of Excellence (GSEs) in Science and the National Research Council's *Framework for K-12 Science Education*.

## Instructor Introduction

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Dr. Katie Brkich (she/her) was a 4<sup>th</sup> and 5<sup>th</sup> grade math and science teacher in an under-resourced school before earning her Ph.D. in Curriculum and Instruction with a focus on Elementary Science Education from the University of Florida. Her research and scholarship focus on analyzing factors that affect who does and does not have success in science education and STEM fields. She first learned about social justice work in her doctoral program and has been working on becoming a more critical pedagogue ever since. On top of teaching teachers, Dr. Brkich also is a mom to a 5th grade girl and wife to a Canadian small business owner. She enjoys taking pictures of daily life and then scrapbooking those pictures. She loves Broadway musicals, playing Dungeons & Dragons, mystery e-books, and comedy podcasts.



## Contact Information

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I am available primarily by *direct* email ([kbrkich@georgiasouthern.edu](mailto:kbrkich@georgiasouthern.edu)).

Please allow twenty-four (24) hours for a response during the week and forty-eight (48) hours over the weekend. If you don't hear back after this time period, please feel free to email me again. I would always rather you ask twice than not get a response.

If I will be unavailable for an extended period of time, I will notify the class by News Post on the course Google Classroom page.

## Office Hours

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Because this is an online course, I do not hold traditional face-to-face office hours and instead make myself available by appointment. I am happy to hold meetings by telephone, Zoom, or Google Meets.

## Course Start and End Dates

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- Start date: Aug. 10, 2022
- End date: Dec. 4, 2022

## Holidays

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Thanksgiving Break – Nov. 21-27, 2022

## Dropping this Class

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Before you withdraw, please contact the Office of Financial Aid to see how withdrawing from a course may impact your current financial aid status and future financial aid eligibility. If you are receiving military aid, you should also reach out to the Office of Veterans Services.

Please see the Policy for Limiting Individual Course Withdrawals for additional information - (<http://em.georgiasouthern.edu/registrar/students/withdrawal/>)

## Course Overview

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Designed to prepare candidates/students for teaching science in grades P-5 based on relevant standards, appropriate instructional methods and materials, organizational techniques, and research to support best practices. Emphasis will be placed on preparing teachers to incorporate appropriate science content, process skills, attitudes, and real-world applications into the science classroom as well as effective and developmentally appropriate ways to teach and assess students. Including those with exceptionalities, disabilities, and cultural diversities.

## General Learning Goals of the Course

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In this course, you will:

1. Demonstrate knowledge of scientific inquiry based instruction and effective methods for assessing students in PreK-5th grade science.
2. Demonstrate competency in the disciplines including content knowledge needed to teach in science.
3. Plan for engaging all students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with appropriate state and national standards. This includes designing and selecting learning activities, instructional settings, and resources to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met.
4. Select appropriate methods and materials (including media and technology) for achieving student engagement in science teaching and learning for all students.
5. Demonstrate proficiency in content research for teaching involving: textbooks, journals, reference books, and websites as needed.
6. Demonstrate proficiency with the technology used to support the content of this course.

## Prerequisite Courses, Skills, and Knowledge

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To be successful in this course, you will need to have the following: What courses, skills, or knowledge should students have to be successful in this course?

- an open mind
- a willingness to feel uncomfortable and to admit you don't have all the answers
- a collaborative spirit
- the work ethic necessary to turn in assignments complete, on time, and according to directions

## Required Texts/Resources

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1. Free Subscription to BSCS ViSTA: Most of our work will come from this site.
  - Please see the "Register for BSCS" document in our Course Overview folder in Google Classroom
2. Use of the Science Tab in the [MAT LibGuide](#)

## Online Learning Commitment Expectations

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This course is an opportunity for you to become part of a community of learners who are committed to learning through reading, writing, discussing, and collaborating. Your overall involvement in the course includes the following:

- *Intellectual risk taking*: demonstrated willingness to offer and pursue ideas and suggestions that may be new or different
- *Making connections*: demonstrated ability to connect the theoretical and practical and to relate specific ideas to larger themes
- *Thinking clearly on paper*: demonstrated proficiency in expressing ideas, organizing information, and communicating in writing, including journal entries, discussion board posts, and submitted papers
- *Contributing to the community*: demonstrated willingness to share information and ideas with the group and to support others in their efforts to build understanding
- *Commitment to developing listening and communication skills*: demonstrated effort to develop effective and active listening and responding skills, through discussion posts.

Students will not be successful in this course if they do not manage and regulate the time they spend on the course. Online learning requires the learner to take more responsibility in the learning process. Students must be motivated and responsible for keeping up with understanding what is expected and stay on task with due dates for readings, assignments, and other activities. Students should log into the course on a daily basis to check for messages and other important information. Do not wait until the last minute to do work that requires you to submit by a due date.

## Course Schedule with Activity Due Dates

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A detailed course schedule is located in the *Course Overview tab in our Google Classroom page*.

## Grading

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The proper use of academic language is required. All written material may be graded on form, style, and grammar, in addition to academic substance. Students who do not demonstrate such proper use of language will not successfully complete this course. The instructor will provide feedback in this area and identify areas for improvement, if necessary. Rubrics will be provided for all major and some minor assignments.

I do not give an Incomplete, a grade of (I), except in extremely unusual circumstances. It is up to you to plan accordingly and finish all work during the scope of this course. Assignments should

be presented in a neat and concise manner. The amount of time devoted to assignments is always reflected in the final product (and in your grade). Consider what you expect in terms of quality from your students when you are teaching.

## Grade Distribution

| Grade | Percentage     |
|-------|----------------|
| A     | 100 to 93      |
| B     | 92.99 to 84    |
| C     | 83.99 to 76    |
| D     | 75.99 to 70    |
| F     | 69.99 or below |

## Grade Calculations

| Type of Assignment                | Number to Complete | Course Points Each | Total Course Points |
|-----------------------------------|--------------------|--------------------|---------------------|
| Module Connection/Discussions     | 8                  | 10                 | 80                  |
| Module Digital Science Notebook   | 8                  | 10                 | 80                  |
| Benchmark Tasks                   | 5                  | 20                 | 100                 |
| STL & SCS Strategies Chart        | 2                  | 10                 | 20                  |
| Midterm & Final Course Evaluation | 2                  | 1                  | 2                   |
| <b>Total</b>                      |                    |                    | <b>282</b>          |

### Pattern of assignments

#### Week One of Each Module:

For the first week of each module, you will be provided a **“study guide”** that will walk you step-by-step through the elements of the readings and videos you should be paying attention to and thinking about. These study guides are to help you make sure you are getting all the needed information for this module. You will NOT submit these – think of this as the work you do during direct instruction and guided practice – it’s guiding you through the methods and pedagogy for the module, but not being assessed. Some of you will want to write out your answers to these questions in your study guide; others may choose to simply mentally stop to answer them. Please use the study guide as best works for you so that it a) can support

you to focus on the important elements of the module, and b) prepare you to have success on the graded elements of the module.

Also, during the first week of each module you will complete slides (pages) in your **Digital Science Notebook** (through Google Slides). Your DSN will be like your 'notebook' for this course where you document your thinking, progress, and reflections about both **methods/pedagogy** (how we teach science) and **content** (what we teach in science). The methods/pedagogy questions will always tie into what you learned from your study guide. The content section will always cover science content that supplements what we are doing in the methods/pedagogy section – specifically allowing you to experience the 5E model as a student. The two big content areas we will focus on this semester are Decomposition and the Water Cycle.

### Week Two of Each Module:

For the second week of each module you will be doing some time of assignment that connects what you learned in week one to your own science classroom (present or future – real or hypothetical). This activity you complete will be the basis for the discussion you will also complete in week two. Your response to the prompts for your **Connection** will be your “initial post” worth 5 points, graded individually. Then, you will work in assigned small groups (4-5) to have a **Discussion** about the module and specifically your connection activities. Each module you will have the choice as a small group to “discuss” one of two ways, either a) synchronously in some format of live chat/discussion (Zoom, Hangouts, etc), or b) using the Questions discussion board feature in Google Classroom.

Elements in the syllabus are subject to change as determined by the instructor.

## Writing Guidelines

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As you are graduate students in the College of Education, it is my expectation that the work you submit be professional in its presentation and adhere to the dicta of good grammar, orthography, and structure. When citing and referencing the writings of others, please do so in accordance with the requirements of the American Psychological Association's 7th Edition [style guide](#).

## COVID 19 GSU Information

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We want you to take appropriate precautions for your health as well as the well-being of your family. If you become ill during the term, please contact me immediately should we need to make arrangements for assignments due. If you have an illness that would result in an extended absence, you will need to contact the Dean of Students office. In the event of serious illness, injury, or extenuating circumstances, the DOS office will notify professors at your request.

## Late Work Policy

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Currently, work must be submitted by the assigned deadlines or it will not be accepted for credit. Please note that only extenuating circumstances normally permitting an excused absence -- such as hospitalization, mourning leave, military deployment, or school athletics -- will warrant extensions. If students have concerns regarding their work and foresee possible delays, they should email me at once.

## Students with Disabilities

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All reasonable accommodations shall be made for students qualifying for such accommodations under the Individuals with Disabilities Education Act (IDEA) of 2004 (or more recent reauthorization), and with the appropriate supporting documentation from the Office of Student Affairs.

If you qualify for accommodations because of a disability, please submit a letter to me from GSU Disabled Student Services early in the semester so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities.

The Student Accessibility Resource Center (SARC) is committed to providing an equal opportunity for all qualified students with disabilities. Here is the contact information: Phone: 912-478-1566; Video Phone: 912-225-9877 or Email: [sarc@georgiasouthern.edu](mailto:sarc@georgiasouthern.edu)

## Academic Honesty

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As graduate students, it is my expectation that *all* of your work will meet the highest standards of academic honesty. All academic honesty violations are mandatorily reported to the Office of Student Affairs. For first-time violators within Georgia Southern University, the offending student will receive an automatic zero on the assignment in question. Any second-time violators will receive an automatic failing grade for the course and be referred to the Student Honor Court.

To ensure there are no chances for students to misunderstand what constitutes plagiarism, cheating, or prohibited collaboration across the University System of Georgia, this section will describe in some detail the behaviors, which are viewed as academically dishonest.

**Plagiarism.** While students are likely to understand plagiarism as stealing someone's words as their own, there are many types of plagiarism. The four main types are stealing verbatim, misquoting, paraphrasing or summarizing without citing, and duplicating publication.

**Stealing Verbatim.** This is exactly as it sounds. If, when composing an assignment, students take a sentence, a portion of a phrase, or even a unique expression which is not theirs, replicate it verbatim, and submit it as their own (without quoting the original source), they have committed plagiarism.

**Stealing Verbatim, but with Acknowledgements.** If, when composing an assignment, students take a sentence, a portion of a phrase, or even a unique expression that is not theirs, and replicate it verbatim while providing a reference or citation, they have still committed plagiarism.

1. If, when composing an assignment, students directly quote a source and cite it, but alter the author's words to strengthen their argument, they have committed plagiarism.

**Paraphrasing or Summarizing Without Citing.** An allowable practice in academia is for students to take an author's words, change the words (without changing the meaning) so that it better fits their narrative. However, even when paraphrasing or summarizing another author's words, students *must* cite that original source. If they do not cite the original source, they have effectively stolen the original author's idea and have committed plagiarism.

**Duplicating Publication.** Students may not reuse or recycle any previous assignments used in another course, or in any other published venue, without the explicit permission from the course instructor. The instructors in the Master's Degree Program do *not* allow students to reuse or recycle their assignments in any course. If students have done this, they have committed plagiarism.

**Cheating.** Additionally, cheating (the unauthorized use of materials or resources) under any circumstances is not permitted. This includes using resources prepared by another student without that student's express consent or knowledge, the use of resources expressly prohibited by the instructor, and the wholesale inclusion of documents produced by others—even when cited properly—in course assignments.

**Unauthorized Collaboration.** Finally, collaborating with other students or academic faculty on assigned work, regardless of the type of work, is expressly prohibited unless otherwise authorized by the course instructor. Students are to assume that they are never permitted to collaborate with anyone on their assignments unless the assignments are explicitly collaborative in nature.

All instances of academic dishonesty will be reported to the Department Chair in the Department of Elementary and Special Education.