

Special Topics: Earth Science Communications (ESC)
EAS 4803/8803 (3 Credit Hours)
Spring 2020

Meeting Times: 3:00 – 4:15 PM TR

Location: L1116 Ford ES&T Building

Course Prerequisites for Undergraduate Students

- Completion of one 1000-level or one 2000-level EAS course

Instructors

Dr. Zachary Handlos

Office: 1251 Ford ES&T Building

Email: zachary.handlos@eas.gatech.edu

Office Hours: 3-4 PM Mondays, 2-4 PM WF (email me about Fridays) or by appointment

Brandon Miller

Email: TBD

Office Hours: By appointment

Required Book

Heath, C. and D. Heath (2007): *Make it Stick: Why Some Ideas Survive and Others Die*. ISBN-13: 978-1-4000-6428-1

Course Description

****This course may be of interest to students interested in a career that intersects science and the media, including broadcast meteorology and science journalism.****

When you think of famous scientists in human history, what qualities come to mind? What science Professors do will you remember best when you graduate from Georgia Tech? Despite numerous scientists that have existed throughout human history, why do people only remember a few over the course of human history, such as Stephen Hawking, Albert Einstein, or even Neil DeGrasse Tyson?

The scientists that are considered to be the most memorable, and often the most successful, are those that accomplish the following: 1) generate significant contributions to society through their scientific findings and 2) ***communicate science information effectively to both their peers and the general public***. While the majority of your science courses in college have likely focused on the first item, this course is all about the second item: science communication within the context of Earth Science.

The goal of this course is to develop your science communication skills, specifically within the context of communicating complex Earth science information accurately and effectively to a general public audience. For example, how would you explain how climate change “works” to your family members? How does complex science information get translated into plain language by the media for dissemination to the public? We will tackle the above topics within a course

framework centered around writing and oral assignments as well as a term project that simulates the process of compiling an investigative report on a relevant Earth science topic of interest. We will also spend significant course time discussing the logistics of producing media content, including guest visits from local and national media outlets such as CNN.

Earth and Atmospheric Science Core Skill Development

The School of Earth and Atmospheric Sciences at Georgia Tech strives to meet several learning standards for all students within the undergraduate program. These standards, and how they will be achieved in this course, are listed below:

- 1) Demonstrate **quantitative understanding** of Earth and atmospheric sciences theory within the context of disseminating Earth science information to a public audience
- 2) Develop **critical analysis** and **problem-solving skills**
- 3) Gain **practical experience** with **analyzing, interpreting and communicating** Earth and atmospheric sciences phenomena
- 4) Gain an appreciation of the **interdisciplinary** nature of Earth and atmospheric sciences
- 5) **Increase breadth of knowledge** within Earth and atmospheric sciences

Grading

Your grade in this course will be based on your performance within the following categories:

- Reading Assignments – 20% of grade
- Weekly Journal Reflection – 20% of grade
- Writing and Presentation Assignments – 30% of grade
- Final Project – 30% of grade

Reading Assignments (20% of Grade)

Periodically throughout the semester, you will be tasked with reading articles pertaining to course topics as well as recent events that tie to Earth and atmospheric science and/or the communication of Earth and atmospheric science. Assignments may require you to create a write-up about such readings and/or facilitate a reading discussion for the class.

Weekly Journal Reflection (20% of Grade)

Each week, you will be asked to provide a short write-up to a prompt that will require you to reflect on your progress and growth throughout this course. More details on this will be provided throughout the semester.

Writing and Presentation Assignments (30% of Grade)

There will be a variety of writing and presentation assignments that will be structured to help you gain experience and improve in disseminating complex Earth and atmospheric science information in a non-technical manner to a general public audience. More details on this will be provided throughout the semester.

Final Project (30% of Grade)

For your final project, you will participate in a mock “60-minutes” special where you will be tasked with conducting and presenting an investigative report on a relevant Earth and atmospheric science topic of interest. This will require you to write-up a “script” about your

segment as well as present within a television-setting type of format. More details on this will be provided throughout the semester.

****Graduate Students: You will be expected to complete some tasks that are at a graduate level difficulty. This will be specified as needed throughout the semester.****

Grading Scale

The **grading** for the course is as follows:

| Grade | Percentage |
|-------|------------|
| A | 100 – 90 |
| B | 89.99 – 80 |
| C | 79.99 – 70 |
| D | 69.99 – 60 |
| F | <60 |

Depending on the distribution of student scores at the end of the course, the scores may be curved to reflect the scale described above (**up to the instructors' discretion**).

Late Work Policy and Makeup Assignments

NO LATE ASSIGNMENTS are allowed in this course. Any late work will be graded as a “0”. All assignments must be completed and turned in to us ON TIME. Makeup assignments will only be allowed in extreme circumstances (e.g., serious illness, family emergency). **You must contact us at least 24 hours prior to the due date/assessment date and explain in full your request for a makeup assignment to be eligible to turn in an assignment beyond its due date.**

If you get sick and have to miss class, you must provide us with documentation from the school (e.g., Dean’s note) that confirms you missed class for medical reasons.

Cheating

Cheating will not be tolerated in this course. Cheating includes the following: 1) copying answers from another student, 2) using unauthorized resources to complete coursework, 3) posting solutions to course assignments on the Internet, and/or 4) any other activity that would be considered “academic misconduct”.

Academic Honor Code

The instructor and students are expected to abide by Georgia Tech’s Academic Honor Code. Plagiarism of any kind (including the reproduction of materials found on the internet) is strictly prohibited and will be reported to the Office of Dean of Students for academic misconduct. The complete text of the Academic Honor Code may be found at:

<https://policylibrary.gatech.edu/student-affairs/academic-honor-code>

Access and Accommodations

At Georgia Tech, we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Office of Disability Services to explore reasonable accommodations.

The Office of Disability Services can be contacted by:

Phone: 404-894-2563

Email: dsinfo@gatech.edu

Website: <http://disabilityservices.gatech.edu/>

If our class meets at a campus location: Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Support Services and Resources

In your time at Georgia Tech, you may find yourself in need of support. Below you will find some resources to support you both as a student and as a person.

Academic Support

- [Center for Academic Success](#)
 - [1-to-1 tutoring](#)
 - [Peer-Led Undergraduate Study \(PLUS\)](#)
 - [Academic coaching](#)
- Residence Life's [Learning Assistance Program](#)
Drop-in tutoring for many 1000-level courses
- [OMED Educational Services](#) - Group study sessions and tutoring programs
- [Communication Center](#) - Individualized help with writing and multimedia projects
- [Academic advisors](#) for your major

Personal Support

Georgia Tech Resources

- The [Office of the Dean of Students](#) | 404-894-6367 | 2nd floor, Smithgall Student Services Building; You also may request assistance [here](#)
- [Counseling Center](#) | 404-894-2575 | Smithgall Student Services Building 2nd floor
 - Services include short-term individual counseling, group counseling, couples counseling, testing and assessment, referral services, and crisis intervention. Their website also includes links to state and national resources.
 - *Students in crisis may walk in during business hours (8am-5pm, Monday through Friday) or contact the counselor on call after hours at 404-894-2204.*
- [Students' Temporary Assistance and Resources \(STAR\)](#)
 - Can assist with interview clothing, food, and housing needs.
- [Stamps Health Services](#) | 404-894-1420
 - Primary care, pharmacy, women's health, psychiatry, immunization and allergy, health promotion, and nutrition
- [OMED Educational Services](#) | 404-894-3959
- [Women's Resource Center](#) | 404-385-0230

- [LGBTQIA Resource Center](#) | 404 385 4780
- [Veteran’s Resource Center](#) | 404-385-2067
- [Georgia Tech Police](#) | 404-894-2500

National Resources

- The [National Suicide Prevention Lifeline](#) | 1-800-273-8255
 - Free and confidential support 24/7 to those in suicidal or emotional distress
- The [Trevor Project](#)
 - Crisis intervention and suicide prevention support to members of the LGBTQ+ community and their friends
 - Telephone | **1-866-488-7386** | 24 hours a day, 7 days a week
 - [Online chat](#) | 24 hours a day, 7 days a week
 - Text message | Text “START” to **687687** | 24hrs day, 7 days a week

Course Schedule (subject to change)

| Week | Topic | Assignment Deadlines | Resources |
|----------------------------|---|---|---|
| Week 1 (1/6/20 - 1/10/20) | Introduction to Communications - Forms of scientific comms | Communication exercise/ice-breaker Article writing pre-test | Reading: Communicating the Science of Climate Change |
| Week 2 (1/13/20 - 1/17/20) | ***ZAK AND BRANDON AT AMS*** | ***ZAK AND BRANDON AT AMS*** - Everyone: Read Ch. 1 Teams: Read assigned chapter(s) and create reading summary document | Reading: Made to Stick (see “Assignment Deadlines” for details) |
| Week 3 (1/20/20 - 1/24/20) | Effective Communication - Story Triangle, Topics from Made to Stick, finding the core message | Explain EAS concept to friend | Reading: “Flip the Triangle” Physics Today article |

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| Week 4 (1/27/20 - 1/31/20) | Digital Story Writing - What makes for a good story? Guest Speaker: John Sutter | Non-Technical Wx/Climate Story Writing Assignment Building a pitch (idea/headline/topic/cost) | Reading: is there a good article or item to read about digital story writing? Does John have any resources? |
| Week 5 (2/3/20 - 2/7/20) | Digital Story Writing – Storytelling: What makes for a good story Guest Speaker: Bill Weir or John Sutter | Fact-check of recent event (e.g., debate, town hall, etc...) Alternative News Assignment | Reading: Boykoff and Boykoff (2007) - A case study of U.S. mass-media coverage |
| Week 6 (2/10/20 - 2/14/20) | Basics of Journalism - Sources/Sourcing, On background, On the record, embargoed, FOIA, Ethics, Media Law Guest Speaker: Ram | Fake News Assignment | Reading: Bail et al. (2018): Exposure to opposing views on social media can increase political polarization |
| Week 7 (2/17/20 - 2/21/20) | Building a pitch – How to Do This | Final Project Intro: Building a pitch (idea/headline/topic/cost) – due by end of week | TBD |
| Week 8 (2/24/20 - 2/28/20) | Interviews | Interview persons related to final project | TBD |
| Week 9 (3/2/20 - 3/6/20) | GT Media Communications - Dissemination of academic work to the media Guest Speaker: Renay San Miguel | TBD | TBD |
| Week 10 (3/9/20 - 3/13/20) | CNN Tour and Discussion | CNN Tour Reflection Paper | TBD |
| Week 11 (3/16/20 - | SPRING BREAK | SPRING BREAK | SPRING BREAK |

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| 3/20/20) | | | |
| Week 12 (3/23/20 - 3/27/20) | SEO (Search Engine Optimization) and Social Media | SEO Assignment: Tweet about final project story (180 characters or less + image/.gif) Students' peer-review of final project pitches Polished draft of pitch/story due | Reading: Brossard and Scheufele (2010) - Science, New Media and the Public |
| Week 13 (3/30/20 - 4/3/20) | Kendeda Building Tour - Communicating its value to the public | Kendeda Building Story | Reading: Kendeda Building |
| Week 14 (4/6/20 - 4/10/20) | Speaking to the public: the science vs. media side Guest Speakers: Dr. Kim Cobb (GT EAS) and Collen Coyle (Broadcast Meteorologist) | Presenting final project topic in a variety of ways – group assignment | TBD |
| Week 15 (4/13/20 - 4/17/20) | Presentations from Thursday assignment; TBD | “Breaking News” | TBD |
| Week 16 (4/20/20 - 4/21/20) | Last Day of Instruction | Last Day of Instruction | Last Day of Instruction |
| Final Exam Timeslot: Thursday, April 23rd, 2020 2:40-5:30 PM | Final Project Presentations | Final Project Presentations | Final Project Presentations |

Either first or last 15 minutes of class – discussions about current events related to Earth and atmospheric sciences within media