CYA | Syllabus

COMM 320 | Science Communication
Spring 2025

Course Instructor: Dr Aimilia Smyrli
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Course Description

This course will provide both a practical and a theoretical approach to science communication, emphasizing its crucial role in **bridging the gap between science and society**. Effective communication of scientific results is essential, as it not only fosters fruitful collaborations and secures important funding - vital for advancing research projects - but also enhances public engagement. By increasing scientific literacy and building Science Capital, we can combat pseudoscience and restore public trust in scientists, ultimately leading to tangible societal benefits such as improved public health and informed decision-making on pressing issues such as climate change.

Open to students from all backgrounds, including social sciences, anthropology, and STEM, the course will create a rich interdisciplinary learning environment. Participants will explore various methods of communicating scientific findings, focusing on their potential impact on diverse audiences, including the general public and children. Students will develop essential skills like public speaking, effective writing and strategic use of social media for outreach - skills that are highly sought after in many career paths.

Students will gain familiarity with the scientific method and various research areas at the National Centre for Scientific Research (NCSR) "Demokritos". This engagement with ongoing research will equip them with the knowledge and confidence to effectively communicate key findings. Additionally, they will have opportunities to contribute to real-world projects that make a difference, allowing them to see the immediate impact of their communication efforts. Ultimately, students will evaluate their communication strategies to measure the societal impact, ensuring their work contributes positively to both the research community and public understanding of science.

By participating in this course, **students** will not only **enhance their career prospects** but also **play a vital role creating a scientifically informed society**, hence having a meaningful impact during their stay in Greece.

Course Approach

Key topics will be covered through a blend of lectures, discussions, workshops and interactions with researchers. The students will gain insight into ongoing research at the different Institutes of NCSR "Demokritos" interviewing our brilliant researchers. They will then communicate the methods and results of this research to a range of diverse audiences, including the general public, school children, teachers and parents. Approaches will include science writing and storytelling, public speaking, effective use of social media, participation in outreach events, and the development of educational activities for primary or high school students. Both individual and team work will be required throughout the course.

Students will have to unique opportunity to interact with some of the best researchers in their fields, and to also meet and **engage with top artists from the realms of dance, music, and theater,** as NCSR "Demokritos" collaborates with these creative professionals to highlight the connection between art and science. They will apply what they have learned in practical settings and receive feedback to refine their communication skills during the module.

Learning Objectives

By the end of the course, the students should be able to:

1. **Explore the Nature of Science**: Understand the scientific method and the processes behind research, in various fields, appreciating **how science intersects with culture, history, and society**.
2. **Advocate for Scientific Literacy**: Recognize the importance of scientific literacy in today's world and learn how to **promote informed decision making** within their communities.
3. **Connect with Diverse Audiences**: Develop skills to communicate complex ideas effectively to various audiences, including school children and the general public, **fostering greater appreciation for science in everyday life**.
4. **Adopt Creative Communication Techniques**: Apply innovative methods - such as storytelling, presentations, social media - to make scientific concepts relatable and engaging for all.
5. **Design Educational Initiatives**: Create impactful educational activities that connect scientific research to cultural and historical contexts, **inspiring curiosity and learning** in classrooms.
6. **Reflect and Improve Communication Strategies**: Evaluate the effectiveness of their communication efforts, **using feedback** to refine their skills and approach, ensuring they can adapt to different contexts.
7. **Drive Positive Societal Change**: Leave the course equipped to contribute positive societal change, using their unique background to **spark discussions on science**, and its role in addressing global challenges.

Course Requirements

- A variety of assignment types:

1. An essay (to be submitted in Week III)
2. Storytelling (written and oral presentations, to be presented in Week VI)
3. An assignment on creating outreach materials tailored to different audiences (to be submitted in Week VIII)
4. A video project (to be submitted in week Xb)
5. Evaluation forms (to be submitted in Week XIIa)

- Required reading of 40-50 pages reading per week for classes
- At least 10 pages of individual research work in science communication, focusing on effective strategies, areas of improvement, and various approaches explored.

Class Field Work and CYA Field Study

From Week II until Week IX, the students will interact with the researchers across the different Institutes of NCSR "Demokritos" shadowing them in their labs and during their experiments. This hands-on experience will help students understand the scientific method and the daily activity of researchers, enabling them to communicate this research effectively to diverse audiences. Additionally, students will meet artists and have the opportunity to contribute to "Science Festivals" for children and families, fostering a dynamic connection between science and the arts.

CYA Field Study

N/A

Evaluation and Grading

Your grade for this course will be based on the following distribution:

Percentages:

Assignment 1 – **Short essay on the importance of Science Communication in Modern Society** - 10%
Assignment 2 – **Storytelling, Presentations and Science Writing** to Promote the Research Happening at NCSR "Demokritos" - 25%
Assignment 3 – **Design an Activity** Related to Up-to-Date Research at NCSR "Demokritos" tailored to your audience - 30%
Assignment 4 – **Digital Communication** Assignment - 20%
Assignment 5 - **Evaluating Your Impact** and Reflecting on Improvements - 15%
Classroom participation: Active participation is required for this course. Each absence will result in a 2% of the final grade.

CYA Regulations and Accommodations Attendance Policy

CYA regards attendance in class and on-site (in Athens or during field study trips) as essential. Absences are recorded and have consequences.

ePolicy on Original Work

Unless otherwise specified, all submitted work must be your own original work. Any ideas taken from the work of others must be clearly identified as quotations, paraphrases, summaries, figures etc., and accurate internal citations and/or captions (for visuals) as well as an accompanying bibliography must be provided.

Use of Laptops

In-class or onsite use of laptops and other devices is permitted if this facilitates course-related activities such as note-taking, looking up references, etc. Laptop or other device privileges will be suspended if devices are not used for class-related work.

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Class Schedule

Class Day	Day/Date/Place	Topic / Readings / Assignments Due
	Jan 23 -25	**Field Study: Delphi &Ancient Olympia**
1	Tue Jan 28 NCSR "Demokritos"	**Introduction to the Module** *Description* Introduction to the objectives and expectations of the module. An overview of NCSR "Demokritos", highlighting the various Institutes and diverse fields of research represented.. *Required reading* Class slides the web page of each Institute of NCSR "Demokritos" Bowater, L. and Yeoman, K. (2013) "Science Communication: a practical guide for scientists." Wiley-Blackwell. *Optional bibliography* Nisbet, M. C., & Scheufele, D. A. (2009). "What's Next for Science Communication? Promising Directions and Lingering Distractions." American Journal of Botany, 96(10), 1767-1778.
2	Thu Jan 30 NCSR "Demokritos"	**Introduction to Science Communication and its Importance** *Description* This week will introduce the concept of science communication, exploring its definition, significance, and role in society. Students will examine how effective communication of scientific information can enhance public understanding, foster trust in science, and promote informed decision-making on critical issues. Discussions will include the impact of science communication on policy, education, and public engagement, highlighting the necessity of bridging the gap between scientists and diverse audiences. *Required reading* Class slides the web page of each Institute of NCSR "Demokritos" Fischhoff, B.& Scheufele, D. A. (2013). "The Science of Science Communication". Proceedings of the National Academy of Sciences of the United States of America, 110 (supplement_3) 14031-14032. Fischhoff, B.& Scheufele, D. A. (2014). "The Science of Science Communication II". Proceedings of the National Academy of Sciences of the United States of America, 111 (supplement_4) 13583-13584. Fischhoff, B.& Scheufele, D. A. (2019). "The Science of Science Communication III ". Proceedings of the National Academy of Sciences of the United States of America, 116 (16) 7632-7633. Optional bibliography Nisbet, M. C., & Scheufele, D. A. (2009). "What's Next for Science Communication? Promising Directions and Lingering Distractions." American Journal of Botany, 96(10), 1767-1778. *Required Assignment* *Essay (Assignment 1)*
3	Tue Feb 4 NCSR "Demokritos"	**Different methods of Science Communication: Writing** *Description* The next couple of weeks will cover the basic concepts of scientific writing, focusing on clarity, structure, and the importance of audience awareness. Students will learn techniques for writing effectively about scientific topics, including how to present data and findings in a compelling manner. The week will also explore various formats, such as articles, blog posts, and reports, emphasizing the role of narrative in making scientific information accessible. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 *Optional bibliography* Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, **7**, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 *Required Assignment* Work on Assignment 1 (Essay) to be submitted on Feb 11

4	Thu Feb 6 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* From this week onward, students will meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week (on Thursday). This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. Optional bibliography Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, 7, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips- conducting-interviews-scientists-science-writing-prize Required Assignment Work on Assignment 1 (Essay) to be submitted on Feb 11
5	Fri Feb 7 NCSR "Demokritos"	**Different methods of Science Communication: Writing** *Description* This week too will cover the basic concepts of scientific writing, focusing on clarity, structure, and the importance of audience awareness. Students will learn techniques for writing effectively about scientific topics, including how to present data and findings in a compelling manner. The week will also explore various formats, such as articles, blog posts, and reports, emphasizing the role of narrative in making scientific information accessible. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 *Optional bibliography* Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, **7**, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 *Required Assignment* Submit Assignment 1 (Essay)
6	Tue Feb 11 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* Students will meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week. This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. Optional bibliography Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, 7, (2022).", Sec. Science

		and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips- conducting-interviews-scientists-science-writing-prize *Required Assignment* *Release Assignment 2 (Storytelling, Presentations and Science Writing) to be submitted on March 13*
7	Thu Feb 13 NCSR "Demokritos"	**Different methods of Science Communication: Presentations** *Description* The next couple of weeks will cover the basic concepts of oral presentations and public speaking, emphasizing the skills necessary for effectively communicating scientific ideas. Students will learn techniques for organizing their presentations, engaging their audience, and delivering their message with confidence. The sessions will include practical exercises, such as practicing delivery and receiving constructive feedback. Additionally, students will explore how to use visual aids effectively and address questions from the audience, preparing them for future outreach and communication opportunities. *Required reading* Class slides Alley, M. (2nd edition, 2013) "The Craft of Scientific Presentations. Critical Steps to Succeed and Critical Errors to Avoid" Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 *Optional bibliography* Matt Carter (2nd edition, 2020)"Designing Science Presentations: A Visual Guide to Figures, Papers, Slides, Posters, and More" *Required Assignment* Work on Assignment 2 (Storytelling, Presentations and Science Writing) to be submitted on March 13
	18-21 Feb	**Field Study: Peloponnese**
8	Tue Feb 25 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* Students will meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week. This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. Required reading Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. Optional bibliography Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, 7, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips- conducting-interviews-scientists-science-writing-prize Required Assignment Work on Assignment 2 (Storytelling, Presentations and Science Writing) to be submitted on March 13
9	Thu Feb 27 NCSR "Demokritos"	**Different methods of Science Communication: Presentations** *Description* This week too will cover the basic concepts of oral presentations and public speaking, emphasizing the skills necessary for effectively communicating scientific ideas. Students will learn techniques for organizing their presentations, engaging their audience, and delivering their message with confidence. The sessions will include practical exercises, such as practicing delivery and receiving constructive feedback. Additionally, students will explore how to use visual aids effectively and address questions from the audience, preparing them for future outreach and communication opportunities. *Required reading* Class slides Alley, M. (2nd edition, 2013) "The Craft of Scientific Presentations. Critical Steps to Succeed and Critical Errors to Avoid" Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 *Optional bibliography*

		Matt Carter (2nd edition, 2020)"Designing Science Presentations: A Visual Guide to Figures, Papers, Slides, Posters, and More" *Required Assignment* Work on Assignment 2 (Storytelling, Presentations and Science Writing) to be submitted on March 13
10	Tue March 4 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* Students will meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week. This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. *Optional bibliography* Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, **7**, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips- conducting-interviews-scientists-science-writing-prize *Required Assignment* Work on Assignment 2 (Storytelling, Presentations and Science Writing) to be submitted on March 13
11	Thu March 6 NCSR "Demokritos"	**Know your Audience** *Description* The next couple of weeks will focus on identifying and analyzing various target audiences, emphasizing the importance of tailoring communication strategies to meet their specific needs and interests. Students will learn how to adapt their messaging for different groups, including school children, educators, policymakers, and the general public. As part of the practical component, students will present a specific topic, demonstrating how they can effectively communicate it to different target audiences. This exercise will allow them to practice crafting messages that resonate with diverse groups, fostering a deeper understanding of audience engagement in science communication. *Required reading* Class slides National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education; Committee on the Science of Science Communication: A Research Agenda. (2017), "Communicating Science Effectively- A Research Agenda" Susan Rowland & Louise Kuchel (2023) "Teaching Science Students to Communicate: A Practical Guide" , Springer Optional bibliography Hutchins Jessica.A. (2021). "Tailoring Scientific Communications for Audience and Research Narrative." Curr Protoc Essent Lab Tech. 2020 Jun;20(1):e40. doi: 10.1002/cpet.40. Epub 2020 Jan 24. PMID: 33072243; PMCID: PMC7566313. Required Assignment Work on Assignment 2 (Storytelling, Presentations and Science Writing) to be submitted on March 13 Release Assignment 3 (Design an Outreach Activity) to submit on April 1st
12	Tue March 11 NCSR "Demokritos"	**Submission of written work and Presentations of Assignment 2**

13	Thu March 13 NCSR "Demokritos"	**Know your Audience** *Description* This week too will focus on identifying and analyzing various target audiences, emphasizing the importance of tailoring communication strategies to meet their specific needs and interests. Students will learn how to adapt their messaging for different groups, including school children, educators, policymakers, and the general public. As part of the practical component, students will present a specific topic, demonstrating how they can effectively communicate it to different target audiences. This exercise will allow them to practice crafting messages that resonate with diverse groups, fostering a deeper understanding of audience engagement in science communication. *Required reading* *Class slides* National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education; Committee on the Science of Science Communication: A Research Agenda. (2017), "Communicating Science Effectively- A Research Agenda" Susan Rowland & Louise Kuchel (2023) "Teaching Science Students to Communicate: A Practical Guide" , Springer Optional bibliography Hutchins Jessica.A. (2021). "Tailoring Scientific Communications for Audience and Research Narrative." Curr Protoc Essent Lab Tech. 2020 Jun;20(1):e40. doi: 10.1002/cpet.40. Epub 2020 Jan 24. PMID: 33072243; PMCID: PMC7566313. Required Assignment Work on Assignment 3 (Design an Outreach Activity) to be submitted on April 1st
	March 18-22	**Field Study: Thessaloniki**
	Tue March 25	**Greek Independence Day (National Holiday)**
14	Thu March 27 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* Students will meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week. This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. *Optional bibliography* Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, **7**, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips- conducting-interviews-scientists-science-writing-prize *Required Assignment* Work on Assignment 3 (Design an Outreach Activity) to be submitted on April 1st

15	Fri March 28 NCSR "Demokritos"	**Social Media and Science** *Description* The next couple of weeks will explore the role of social media platforms—such as LinkedIn, Facebook, and Instagram—in effective science communication. Students will learn strategies for crafting concise and engaging messages that resonate with diverse audiences. The session will cover best practices for building a scientific presence online, including how to share research findings, engage with the public, and foster meaningful discussions. Additionally, students will examine case studies of successful science communication campaigns on social media and discuss the challenges and ethical considerations of using these platforms for outreach. *Required reading* Class slides Thorp H.Holden (2022) "Science and Social Media" , Vol.375, Issue 65812, page 593, Science *Optional bibliography* Nisbet, M. C., & Scheufele, D. A. (2009). "What's Next for Science Communication? Promising Directions and Lingering Distractions." American Journal of Botany, 96(10), 1767-1778. *Required Assignment* Submit Assignment 3 (Design an Outreach Activity)
16	Tue April 1 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* Students will meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week. This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. *Optional bibliography* Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, **7**, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips- conducting-interviews-scientists-science-writing-prize *Required Assignment* Release Assignment 4 (Digital Communication Assignment) to be submitted on April 24
17	Thu April 3 NCSR "Demokritos"	**Social Media and Science** *Description* This week too will explore the role of social media platforms—such as Twitter, Facebook, and Instagram—in effective science communication. Students will learn strategies for crafting concise and engaging messages that resonate with diverse audiences. The session will cover best practices for building a scientific presence online, including how to share research findings, engage with the public, and foster meaningful discussions. Additionally, students will examine case studies of successful science communication campaigns on social media and discuss the challenges and ethical considerations of using these platforms for outreach. *Required reading* Class slides Thorp H.Holden (2022) "Science and Social Media" , Vol.375, Issue 65812, page 593, Science Optional bibliography Nisbet, M. C., & Scheufele, D. A. (2009). "What's Next for Science Communication? Promising Directions and Lingering Distractions." American Journal of Botany, 96(10), 1767-1778. *Required Assignment* Work on Assignment 4 (Digital Communication Assignment) to be submitted on April 24

18	Tue April 8 NCSR "Demokritos"	**Meeting with the team of Researchers and Artists** *Description* This is the last week that the students meet with different researchers from various institutes at NCSR "Demokritos" for a series of shadowing sessions, occurring for one hour each week. This hands-on experience will provide insights into the scientific process and the daily activities of researchers. Additionally, students will engage with collaborating artists, exploring how creativity intersects with science. This collaboration will deepen their understanding of how artistic perspectives can enhance scientific communication and outreach. *Required reading* Class slides Alley, M. (4th edition, 2018). "The Craft of Scientific Writing." Springer. Dahlstrom, M.F. (2014) "Using narratives and storytelling to communicate science with nonexpert audiences", PNA, Volume 111, Issue Supplement 4 Students will engage with materials that provide information about the researchers and artists they will meet during the module. This reading will include summaries of key papers published by the researchers, highlighting their contributions to various fields, as well as insights into the notable works created by the artists. Understanding this background will enhance students' interactions and discussions, allowing them to better appreciate the intersection of science and art in their communication efforts. *Optional bibliography* Grady, S.M. et al, (2022), "Defining a Flexible Notion of "Good" STEM Writing Across Contexts: Lessons Learned From a Cross-Institutional Conversation, Frontiers in Communication, **7**, (2022).", Sec. Science and Environmental Communication, Volume 7 - 2022 https://www.theguardian.com/science/2014/apr/03/top-tips-conducting-interviews-scientists-science-writing-prize *Required Assignment* Work on Assignment 4 (Digital Communication Assignment) to be submitted on April 24
19	Thu April 10 NCSR "Demokritos"	**Evaluation** *Description* This week will focus on the importance of evaluation in science communication and public engagement. Students will learn about various methods and tools used to assess the effectiveness of science communication efforts. The session will cover both qualitative and quantitative evaluation techniques, emphasizing how to measure impact, gather feedback, and identify areas for improvement. Students will also explore case studies that highlight successful evaluation strategies and their role in enhancing future communication initiatives. *Required reading* Class slides Evaluation forms NCSR "Demokritos" is using for its educational and outreach activities Harrison, N., (2016), "Evaluating outreach activities: overcoming challenges through a realist 'small steps' approach", Perspectives: Policy and Practice in Higher Education, Volume 21. Clements, N. et al,. (2022) "How professionalisation of outreach practitioners could improve the quality of evaluation and evidence: a proposal". Perspectives: Policy and Practice in Higher Education 26:2, pages 63-68. Required Assignment Work on Assignment 4 (Digital Communication Assignment) to be submitted on April 24
	11-21 April	**Spring Recess (Orthodox Easter April 20)**
20	Tue April 22 NCSR "Demokritos"	**Evaluation** *Description* This week will focus on the importance of evaluation in science communication and public engagement. Students will learn about various methods and tools used to assess the effectiveness of science communication efforts. The session will cover both qualitative and quantitative evaluation techniques, emphasizing how to measure impact, gather feedback, and identify areas for improvement. Students will also explore case studies that highlight successful evaluation strategies and their role in enhancing future communication initiatives. *Required reading* Class slides Evaluation forms NCSR "Demokritos" is using for its educational and outreach activities Harrison, N., (2016), "Evaluating outreach activities: overcoming challenges through a realist 'small steps' approach", Perspectives: Policy and Practice in Higher Education, Volume 21. Clements, N. et al,. (2022) "How professionalisation of outreach practitioners could improve the quality of evaluation and evidence: a proposal". *Perspectives: Policy and Practice in Higher Education* 26:2, pages 63-68. *Required Assignment* Submit Assignment 4 (Digital Communication Assignment) Release Assignment 5 (Evaluation of Outreach Activities) to be submitted May 12

21	Thu April 24 NCSR "Demokritos"	**Diversity and Equity in Science Communication** *Description* This week will emphasize the critical role of science communicators in addressing underrepresentation, bias, and inequality within the field. Students will explore the importance of inclusive communication practices that consider diverse perspectives and backgrounds. Discussions will cover strategies for engaging underrepresented communities, the impact of bias in scientific messaging, and the necessity of fostering equitable access to scientific information. By examining case studies and current initiatives, students will gain insights into how effective science communication can contribute to a more inclusive and equitable scientific landscape and hence society. *Required reading* Class slides Judd K., McKinnon M., (2021), "A Systematic Map of Inclusion, Equity and Diversity in Science Communication Research: Do We Practice what We Preach?", Front. Commun., Sec.Science and Environmental Communication, Volume 6 Optional bibliography Golle J. et al, (2022) , "How science outreach with children can promote equity and diversity", Trends Cell Biol. 2022 Aug;32(8):641-645. Required Assignment Work on Assignment 5 (Evaluation of Outreach Activities) to be submitted May 8
22	Tue April 29 NCSR "Demokritos"	**Diversity and Equity in Science Communication** *Description* This week will emphasize the critical role of science communicators in addressing underrepresentation, bias, and inequality within the field. Students will explore the importance of inclusive communication practices that consider diverse perspectives and backgrounds. Discussions will cover strategies for engaging underrepresented communities, the impact of bias in scientific messaging, and the necessity of fostering equitable access to scientific information. By examining case studies and current initiatives, students will gain insights into how effective science communication can contribute to a more inclusive and equitable scientific landscape and hence society. *Required reading* Class slides Judd K., McKinnon M., (2021), "A Systematic Map of Inclusion, Equity and Diversity in Science Communication Research: Do We Practice what We Preach?", Front. Commun., Sec.Science and Environmental Communication, Volume 6 *Optional bibliography* Golle J. et al, (2022) , "How science outreach with children can promote equity and diversity",Trends Cell Biol. 2022 Aug;32(8):641-645. *Required Assignment* Work on Assignment 5 (Evaluation of Outreach Activities) to be submitted May 8
23	Tue May 6	**Summary of the course – Feedback on progress made and reflection on tutor** *Description* In our final week, oing to highlight the most important topics we worked on during this course. Feedback is going to be provided on the general progress the students have made and also the tutor is going to reflect on their work.
24	Thu May 8	**Summary of the course – Feedback on progress made and reflection on tutor** *Description* In our final week we are going to highlight the most important topics we worked on during this course. Feedback is going to be provided on the general progress the students have made and also the tutor is going to reflect on their work.

N.B.: The course schedule, in terms of subjects and readings, may be subject to change to benefit student learning and to keep up to date with current research.

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