

In-person, Embedded, & Online: Designing A Pedagogically-Based Undergraduate Research Literacy Program



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Introductions



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Liaison to:

- Office of Undergraduate Research
- Honors College
- Human Development

Introductions



Anne M. Brown

- Assistant Professor
- Science Informatics
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- Adjunct in Biochem

The Advanced Research Skills Program (ARS)

- **A 7-week, 6 workshop, comprehensive online undergraduate research series**
- **Students practice high-level research skills**
- **Program was designed with the research lifecycle in mind**
- **Started January 24th**



ARS Programmatic Goals

- 1. Expose students to undergraduate research skills and concepts**
- 2. Practice identifying potential faculty mentors**
- 3. Design an effective poster highlighting**
- 4. Build an ePortfolio to showcase their skills**




History of ARS

- Piloted in 2014-15 by other University Libraries' faculty
- To support the Office of Undergraduate Research
- Presented, published, and developed collaboratively over time



Changes in Marketing of ARS



VirginiaTech
Invent the Future

Advanced Research Skills

Spring Semester 2016

Advanced Research Skills Certificate Program

All in-person workshops will take place in Newman Library's Multipurpose Room

Online Modules:

Becoming a researcher
Join the conversation about what it takes to be an undergraduate researcher. We will discuss research opportunities through the Office of Undergraduate Research and research support from University Libraries.

Finding scholarly literature
Learn a variety of advanced database techniques and strategies to make your research easier. During this module, we will discuss selecting the best databases for your topic, searching for relevant literature, and managing the results of your searches.

These online modules need to be completed between January 25 and February 29, 2016.

In-Person Sessions:

Understanding data
This workshop will cover basic data management principle and practices and will offer strategies for and things to think about when working with research data of all shapes, sizes, and formats. Data management is an extremely important part of the research process; developing good habits early will set you up for success later in your career.
Presenter: Haisuko Alchols
Wednesday, January 27, 2016, 6:00-7:30 pm

Managing and organizing information
Need a way to keep all the articles and sites for your research organized? Hate doing footnotes, endnotes, and bibliographies? Come learn about EndNote, Zotero, Mendeley, Evernote, and other tools for managing and organizing your citations, research articles, and other research information.
Presenter: Lisa Beckford
Wednesday, February 3, 2016, 6:00-7:30 pm

Using data and information ethically
Discover methods of ethical data use including in-text quotations, citations, and IRB information. This workshop will help you answer questions like: When do I need to get IRB approval? What is IACUC? Is there a difference between working with animals and humans?
Presenter: Ellen Krupar
Wednesday, February 10, 2016, 6:00-7:30 pm

Writing successful conference proposals and research abstracts
In the changing landscape of scholarly publishing, most publishers and conference organizers require proposals and abstracts before publishing your research. Join us as we discuss this landscape and review different approaches for creating proposals and abstracts that will get your research noticed!
Presenter: Kiri DeBose
Wednesday, February 17, 2016, 6:00-7:30 pm

Creating effective research posters
This session will walk you through the process of designing, developing, and printing effective research posters. We will cover basic design principles in addition to strategies for successfully communicating your research.
Presenter: Patrick Tomlin
Wednesday, February 24, 2016, 6:00-7:30 pm

Advanced Research Skills Certificate
Students who complete both online modules, attend all of the workshops, and complete the activity for each workshop will receive the **Advanced Research Skills Certificate** from University Libraries. This certificate will be awarded at a ceremony and reception in March.

Contact [Carolyn Meier \(cmeyer@vt.edu\)](mailto:cmeyer@vt.edu) or [Lisa Beckford \(lbeckford@universitylib.vt.edu\)](mailto:lbeckford@universitylib.vt.edu) for more information.

To indicate interest, visit <https://go.gi.usie70Q>

Virginia Polytechnic Institute and State University

- Approaches in marketing and outreach have changed over time
 - Table cards
 - Canvas ads
 - Email ads
 - Flyers and digital screens
 - Faculty in-person outreach

Success of ARS

Attendance over the years:

- 2014: 34 enrolled; 22 completed
- 2015: 82 enrolled; 46 completed
- 2016: 104 enrolled; 53 completed
- 2017: 60 enrolled; 56 completed
 - (UH 1604 - 31; ARS - 25)
- 2018: 93 enrolled; 10 completed



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Innovations in ARS



Designing Your Poster

This video covers Williams' Design Principles, which include proximity, alignment, repetition, contrast, and balance (1994). It was created for the Advanced Research Skills Program and included in the module



Writing More Effective Abstracts

This video defines abstracts, discusses their purpose, and identifies strategies for writing effective abstracts. This video was created for the Advanced Research Skills Program and included in the module

Digital learning object decisions

- All items are accessible
 - CC and scripts
- All items contain CC BY licenses
 - Others can use as is or rework with attribution
- All items are housed in an undergraduate research collection in Odyssey, University Libraries' digital learning object repository



Digital materials encouraged growth



ARS In-person

- In-person instruction is taught by request
- Designing Engaging Posters is one of the most common sessions
- Sessions have been offered for a variety of students
 - FYE, Service learning, Living learning communities, graduate seminar classes



ACADEMIC POSTER PLANNING WORKSHEET


TOPIC or QUESTION:

1. DEFINE AUDIENCE
Where are you presenting? Are you speaking alongside your poster or will it stand alone? Who is your audience? How much do they know about the topic?

2. LIST CONTENT
You know a lot about your topic, but you won't be able to get all that onto your poster. You will need to decide what info to showcase. What content must you include? Rank each item in importance.


<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____

3. THINK OUT VISUALS
What visuals do you have ready for your poster? What visuals could you create or find? Examples could include graphs, charts, icons, maps, and photos.



ARS Embedded

- **As an entire workshop series, ARS has been embedded in a variety of educational experiences:**
 - **Research labs**
 - **FYE classes**
 - **Intro research practices courses**



Advanced Research Skills Program

Every Undergraduate Student Can Find Success in their Research Journey

> **What is the program?**
A 7-week, 6 workshop, comprehensive online undergraduate research series where students will practice high-level research skills, such as applying for grants and designing effective research posters, and build confidence as they approach or conduct research.

How will it benefit the student?

- Increase awareness of undergraduate research and opportunities on campus
- Build a network of like-minded peers and faculty/staff from the University Libraries and the Office of Undergraduate Research
- Develop transferable skills that transcend disciplines and appeal to research mentors and employers

What will the program include?


- Multimedia content and online modules on undergraduate research and the research lifecycle, which cover topics such as Using Data & Information Ethically and Writing Successful Proposals
- Interactive activities and relevant assignments that can be used beyond the program (ex how to write a letter to a faculty member can be used right away to reach out to find your first research position)
- Direct access to the Coordinators of the Office of Undergraduate Research and the Advanced Research Skills series

What are the takeaways that lead to success?
At the end of the series, students will:

- Identify potential faculty mentors and practice drafting emails to find a research position
- Design an effective poster highlighting newly developed skills from the series
- Build an ePortfolio to showcase their poster, reflect on the series, and share with potential research mentors or employers

Sign-up at <http://bit.ly/arsp19>
Begins January 25, 2019
Get program information at <https://guides.lib.vt.edu/arsp2019>
For questions contact Amanda MacDonald at amadon@vt.edu

From University Libraries and endorsed by the Office of Undergraduate Research



- Online series will continue to be offered
- It's happening right now
- Wintermester was also offered
- Approximately 50 students enrolled

How have these changes impacted ARS?



How embedding ARS helps us!

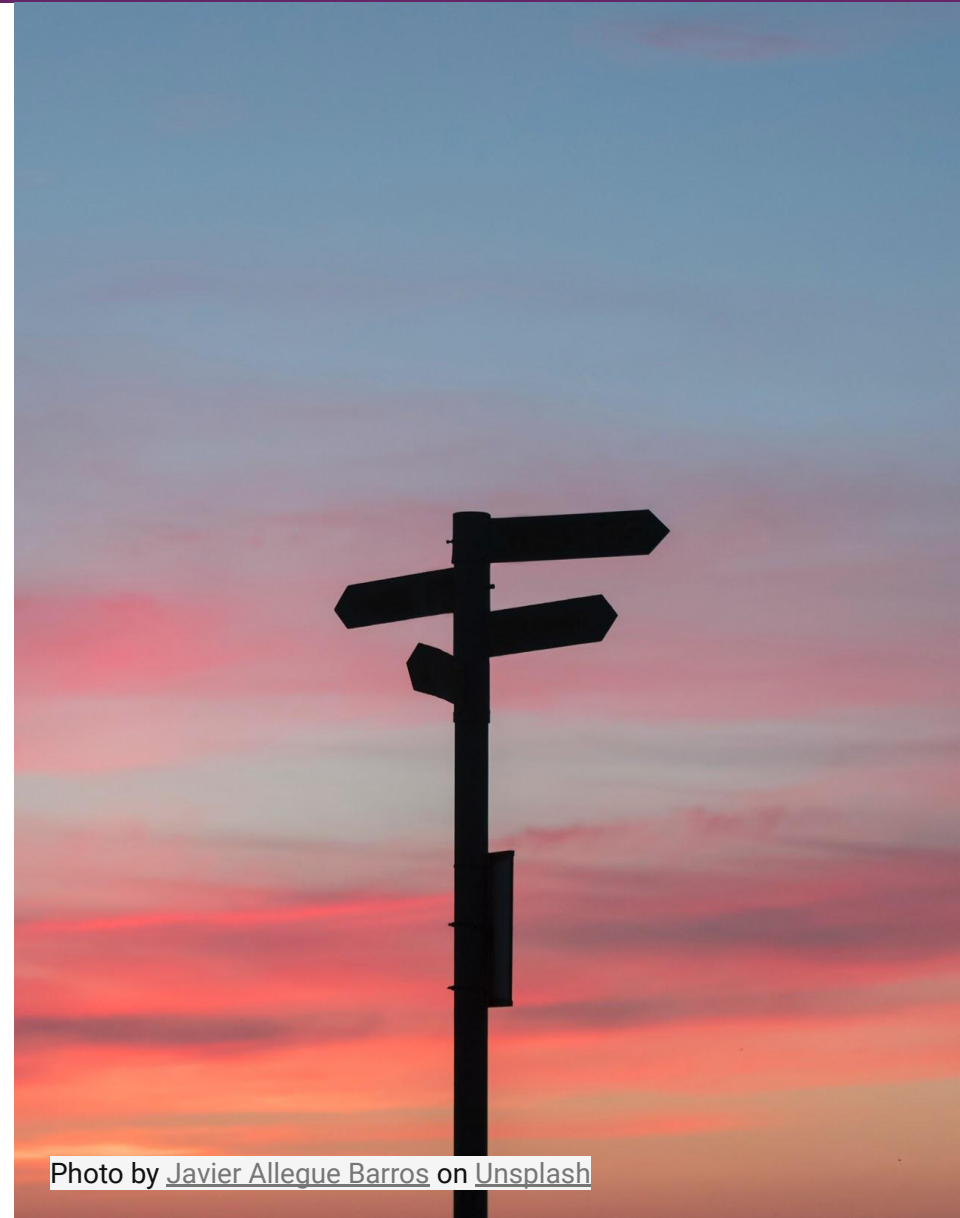
- Increase in university data on students engaging in HIPs
- Identified trends regarding student participation
- Expect to continue increasing our reach and impact



Data has a better idea

What's next for ARS?

- **Integration into more labs**
- **Continued online offerings**
- **Growth in content and coverage**
- **Programmatic assessment**



COMMENTS? QUESTIONS?