

PLANTING THE SEEDS FOR DATA LITERACY: LESSONS LEARNED FROM A STUDENT CENTERED EDUCATION PROGRAM

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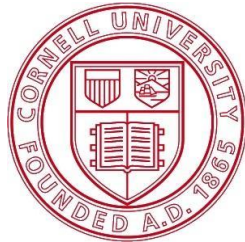


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DATA LITERACY GRANT



- What knowledge and skills with data will graduate students need to be successful?
- What role could librarians play in teaching these skills?

5 Case Studies:

<http://docs.lib.purdue.edu/dilcs/>



COLLEGE OF AGRICULTURE



Dr. Karen Plaut,
Associate Dean
of Research

Pitching the Data Lit. Program

- Students need to be able to manage and curate data
- These skills are not currently being taught
- Acquiring such skills would be a competitive advantage
- An opportunity to learn what is needed

PILOT PROGRAM



Characteristics

- Semester long
- Ten students max
- Application Process
- Approval of Advisor
- Stipends rather than credit

ASSUMPTIONS

We believed that our program should

- Center on the student's role as data producer and manager
- Have students use their own data
- Use active learning and peer networks
- Flexible, responsive and student-driven

SESSION TOPICS BY WEEK

1. Introduction to the Data Literacy Pilot Program
2. Data Management Planning
3. Data Lifecycle Models
4. Discovery and Acquisition
5. Description and Metadata
6. Data Security and Storage / Description & Metadata (Part 2)
7. Issues in Copyright and Licensing Data
8. Description and Metadata (Part 3)/Mid-point Check-in
9. Data Sharing/File Naming Conventions
10. Data Management and Documentation
11. Data Visualizations
12. Data Repositories
13. Data Preservation
14. Data Publication and Curation
15. Data Literacy Course Wrap-Up

<http://docs.lib.purdue.edu/dilcs/>

ASSESSMENT



Formative:

- Assignments
- “Minute Papers”

Summative:

- End of Semester Focus Group
- Six Month Follow-up Interviews

STRENGTHS



‘This course really changed the way I think about research. It made me into a better scientist because now I have taken responsibility for my data management.’

STRENGTHS

Data Management Lifecycle
— Marginal land mapping

Stages	Outputs	Data Format	SW
1. Planning	Flowchart	Word/PPT	--
2. Data Collection	Raw GIS Data	Raster/Shapefile	IE
3. Data Processing	Map atlas/ Metadata.	Raster/Shapefile	ArcGIS 10.2
4. Analysis	Excel/ Txt Figures/ Tables	→	MS Excel. ArcGIS 10.2
5. Data Publish	Dynamic online map	Raster/Shapefile	Purdue GIS Service

‘Most of this material is abstract, but being able to directly apply the course’s material to my own dataset right in class, made it much easier for me to grasp the topics.’

STRENGTHS



‘I liked how integrated you were across fields... I saw similarities in other departments that I did not think about [previously].’

Image Credit: “Launching the UAV”
http://www.agry.purdue.edu/hydrology/personal_pages/Hearst_Anthony.asp

STRENGTHS



‘I was surprised [that there is] a framework in place for handling these kinds of issues. [I]nformation is out there if you know where to look for it.’

LESSONS LEARNED



Image credit:
"Horrible Warning"
https://www.flickr.com/photos/major_clanger/4850772

‘I think your best balance is a lot of examples. Because then we know that there are so many options that there is not a “wrong” way to do it.’

LESSONS LEARNED



‘I thought it was valuable to see the big picture, but I agree [start with] the hands on. I was really uncomfortable trying to start with the big picture. I felt like I was drowning.’

THE ELEPHANT IN THE ROOM

‘Do I really have rights to my work as a graduate student?’



Image credit: Jennifer Krauel “The Science Team” <https://www.flickr.com/photos/batlove/9880965676/sizes/l>

NEXT STEPS



- The course continues as AGRY 498000 for 2 credits this spring
- Co-taught by Marianne and Dr. Turco, an Agronomy professor
- Planning on being part of a larger data certificate program

Image Credit:

<https://ag.purdue.edu/agry/directory/Pages/rturco.aspx>

THANK YOU

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Our materials are available through the Data Information Literacy Case Studies Directory:

<http://docs.lib.purdue.edu/dilcs/>