LAS 6292: DATA COLLECTION & MANAGEMENT
Spring Semester 2019

INSTRUCTOR: Dr. Emilio M. Bruna (http://brunalab.org/emilio-m-bruna/)

CONTACT INFO: Phone: (352) 846-0634 / email: embruna@ufl.edu / Twitter: @BrunaLab

CLASS SESSIONS: Monday, Periods 4-6 (10:40-1:40) in Grinter Hall 376

OFFICE HOURS:

1) Tuesdays from 10:30-11:45 in 380 Grinter Hall. You can guarantee a specific time slot by scheduling online at http://brunalab.org/teaching/office-hours.
2) By appointment: If you can’t make it during the regularly scheduled hours just let me know and we can make an appointment to meet at a time that works for you.
3) Can’t make it to campus? No problem. We can meet by skype or phone of that’s more convenient for you (please let me know in advance).

COURSE OBJECTIVES: At the conclusion of this course students will be able to:

1) Describe the different types of research data;
2) Explain the need for managing and sharing research data;
3) Describe and implement best principles for data storage, management, and sharing;
4) Carry out simple manipulations and visualizations of datasets;
5) Describe public policies and agency requirements relevant to data collection and management;
6) Articulate the major legal and ethical considerations regarding the collection, use, and storage of research data;
7) Create and Implement a Data Management Plan
8) Identify and Appraise tools for data collection and management

COURSE MATERIALS:

1) Required Textbook: NONE


3) Course Web Pages:
   a. Readings, assignments, resources: www.brunalab.org/las6292.
   b. Assignments: must be submitted via the class e-learning page: https://elearning.ufl.edu/. This is also where grades will be posted.
CRITICAL DATES: see below for assignment due dates.

EVALUATION & ASSIGNMENTS: The grades for this course are based on the following assignments:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of your dataset and the question that motivated it</td>
<td>14 Jan</td>
<td>20</td>
</tr>
<tr>
<td>Correctly Formatted, Named, and Stored Data Files</td>
<td>4 Feb</td>
<td>100</td>
</tr>
<tr>
<td>Draft Metadata Files</td>
<td>11 Feb</td>
<td>120</td>
</tr>
<tr>
<td>Overview of research question and data to be collected</td>
<td>18 Feb</td>
<td>20</td>
</tr>
<tr>
<td>Final Data Set, Corrections Log, and Metadata</td>
<td>25 Feb</td>
<td>160</td>
</tr>
<tr>
<td>Processed data, data summary, and 2 visualizations</td>
<td>18 March</td>
<td>80</td>
</tr>
<tr>
<td>Upload dataset to repository</td>
<td>1 April</td>
<td>50</td>
</tr>
<tr>
<td>Draft Data Management Plan</td>
<td>8 April</td>
<td>100</td>
</tr>
<tr>
<td>list of data collection and processing tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>draft data collection and data files</td>
<td>15 April</td>
<td>50</td>
</tr>
<tr>
<td>Final Data Management Plan</td>
<td>2 May</td>
<td>200</td>
</tr>
<tr>
<td>Final Data Collection Tools</td>
<td>2 May</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1000</strong></td>
</tr>
</tbody>
</table>

Grades: For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx. Final Grades will be assigned on the following scale (based on percentage of points out of the total):

A = ≥93%, A- = 92-90%
B+ = 89-87%, B = 86-83%, B- = 82-80%
C+ = 79-77%, C = 76-73%, C- = 72-70%
D+ = 69-67%, D = 66-63%, D- = 62-60%
E = 59% and below.

Absences and Make-Up Work: Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

If you need to miss an exam or assignment due date for whatever reason (conference, illness, family emergency, etc.), please contact us as soon as possible.

Regrades: Requests for re-evaluation of exams, quizzes, and other assignments will only be considered if they are accompanied by a letter explaining why you think you deserve additional credit and how many additional points. The deadline for submitting these requests is one week after the work has been returned.
**Academic Honesty:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment”. It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: [http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php](http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php).

**Services for Students with Disabilities:** The Disability Resource Center (0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. **I want you to do well in this class, and will gladly make any accommodations to help make that possible!**

**Campus Helping Resources:** Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

**University Counseling & Wellness Center**
3190 Radio Road, 352-392-1575 [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)
- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Training Programs
- Community Provider Database

**Career Resource Center,**
First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)
UF provides an educational and working environment for its students, faculty, and staff that is free from sex discrimination and sexual harassment. Sexual harassment of any kind will not be tolerated in this course. For more about UF policies regarding harassment: http://www.dso.ufl.edu/studentguide/studentconductcode.php#s4041

Food insecurity. The Pantry is a resource on the University of Florida campus committed to eradicate food insecurity (https://pantry.fieldandfork.ufl.edu/). Food insecurity is not having a reliable access to nutritious foods for yourself on a regular basis. If you, or anyone you know is experiencing food insecurity, the Pantry is a resource to visit.

Software Use: All faculty, staff, and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.
# COURSE OUTLINE

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/7</td>
<td>Data across disciplines, Research Data Lifecycle</td>
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<tr>
<td>2</td>
<td>1/14</td>
<td>File Formats, Naming conventions, Storage, and Security</td>
<td>1</td>
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<tr>
<td>3</td>
<td>1/21</td>
<td>Data structure and formatting I</td>
<td></td>
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<tr>
<td>4</td>
<td>1/28</td>
<td>Data structure and formatting II</td>
<td></td>
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<tr>
<td>5</td>
<td>2/4</td>
<td>Metadata &amp; Documentation</td>
<td>2</td>
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<tr>
<td>6</td>
<td>2/11</td>
<td>Efficient Data collection</td>
<td>3</td>
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<tr>
<td>7</td>
<td>2/18</td>
<td>Data entry, QAQC</td>
<td>4</td>
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<tr>
<td>8</td>
<td>2/25</td>
<td>Version control, Introduction to Reproducibility</td>
<td>5</td>
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<tr>
<td>9</td>
<td>3/4</td>
<td><strong>SPRING BREAK</strong></td>
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<tr>
<td>10</td>
<td>3/11</td>
<td>Data processing &amp; visualization I</td>
<td></td>
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<tr>
<td>11</td>
<td>3/19</td>
<td>Data processing &amp; visualization II</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>3/18</td>
<td>Legal and Ethical Issues</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>3/25</td>
<td>Data Sharing, Reuse, and Citation; Data repositories</td>
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</tr>
<tr>
<td>14</td>
<td>4/1</td>
<td>Data Management Plans</td>
<td>7</td>
</tr>
<tr>
<td>15</td>
<td>4/8</td>
<td>Data Collection Workshop (test drive of data collection tools)</td>
<td>8</td>
</tr>
<tr>
<td>16</td>
<td>4/15</td>
<td>Tools for Project Management &amp; Collaboration</td>
<td>9</td>
</tr>
<tr>
<td>17</td>
<td>4/22</td>
<td>Free day to work on DMP &amp; Data Collection Instrument</td>
<td></td>
</tr>
<tr>
<td>Finals Week</td>
<td>5/2</td>
<td>Submission of DMP &amp; Data Collection Instrument by noon</td>
<td>10</td>
</tr>
</tbody>
</table>

**ASSIGNMENTS** (see course webpage for complete details)

1. Description of your dataset and the question that motivated it  
2. Correctly Formatted, Named, and Stored Data File(s)  
3. Draft Metadata File(s)  
4. Overview of Research question and data to be collected  
5. Final Data Set, Corrections Log, and Metadata  
6. Processed data, data summary, and 2 visualizations  
7. Upload dataset to repository  
8. Draft Data Management Plan  
9. list of data collection and processing tools; draft data collection and data files  
10. Final Data Management Plan & Data Collection Tools
READINGS
(may be updated periodically, check the course web page)

- **Week 2: File Formats, Naming conventions, Storage, and Security**
  
  - IFTTT: [http://tinyurl.com/y9bz8suj](http://tinyurl.com/y9bz8suj)
  - UF Library Guidelines: [http://guides.uflib.ufl.edu/datamanagement/security](http://guides.uflib.ufl.edu/datamanagement/security)

- **Weeks 3 & 4: Data structure and format I & II**
  

- **Week 5: Metadata & Documentation**
  

- **Week 6: Efficient Data collection (from approach to tools)**
  

- **Week 7: Data entry, QAQC**
  - Kamentz, A. The School Shootings that weren't (NPR). [http://tinyurl.com/y77p3o36](http://tinyurl.com/y77p3o36)
  - Matthew Lincoln: Best practices for using google sheets in your data project

- **Week 8: Version control, Introduction to Reproducibility**

- **Weeks 10 & 11: Data processing Visualization**
  - “Ch7 in Exploratory Data Analysis” in Wickham and Grolemund’s “R for Data Science”: [https://r4ds.had.co.nz/exploratory-data-analysis.html](https://r4ds.had.co.nz/exploratory-data-analysis.html)

- **Week 12: Legal and Ethical Issues**

- **Week 13: Data Sharing, Reuse, and Citation; Data Repositories**


UF Library Guide: http://guides.uflib.ufl.edu/datamanagement/sharing


- **Week 14: Data Management Plans**
  - UF Library Guidelines: http://guides.uflib.ufl.edu/datamanagement/dmp
  - DMP Tool: https://dmptool.org/help

- **Week 15: Data Collection Workshop**

- **Week 16: Tools for Project Management & Collaboration**
  - Open Science Framework (free): http://tinyurl.com/yaa8hph4
  - Asana (monthly charge): https://asana.com/
  - Slack: http://tinyurl.com/y9bz8suj