Data Governance, Laws & Ethics:
BUAG5314 & DSEG5315

Instructor:

Carmen Taglienti.
Email: taglientic@merrimack.edu; (Alternate: carminetag@gmail.com)
Phone: 617-893-2940 (cell/office)

Course Term: March 16, 2020—May 8, 2020
Course Description:

This course introduces students to the fundamental concepts capturing legal rights and responsibilities associated with data capture, storage and leveraging data for decision-making. Given the very diverse mix of topic falling under this broad umbrella, the aim of the course is to provide a general overview of the applicable aspects of the US regulatory and legislative framework, and then to offer more topically-focused overview of the key notions falling within the following domains: data capture related rights and responsibilities, data governance design and management, data security and privacy, information quality, and the ethical aspects of data access, usage, and sharing.

Course Learning Objectives:

Upon completion of this course, students are expected to demonstrate mastery of the following objectives:
- Understand the logic, the key elements and processes of the US regulatory and legislative framework, as applicable to capture, storage and usage rights and obligations;
- Identify key considerations relating to organizational data capture rights and responsibilities;
- Analyze data security planning frameworks and ongoing management approaches and practices;
- Evaluate key ethical considerations surrounding privacy, access, usage and third-party sharing of data;
- Evaluate key considerations surrounding the use of data for business insight, including access, usage, and data quality.

Required Course Materials:

There is no textbook required for the course. Reading materials required for this course are listed in *Weekly Topics and Assignments.*

Important Deadlines for the Term:

3/20/20	**Friday**	Last day to add/drop a course
4/17/20	**Friday**	Last day to withdraw from a course with a "W"
5/8/20	**Friday**	Last day of classes
4/14/20	**Thursday**	Grades due

Grading & Assignments:

A	B	C	D	F
Excellent	**Good**	**Fair/Poor**	**Poor**	**Unacceptable**
93+ A	87-89 B+	77-79 C+	67-69 D+	
90-92 A-	83-86 B	73-76 C	63-66 D	Below 60
	80-82 B-	70-72 C-	60-62 D-	

Student requirements and their corresponding weights are summarized as follows:

Assignment	Weight
Position Papers (2)	20%
Applied research project	30%
Final Exam	30%
Group Discussions (4 weeks)	20%

All assignments will be graded on a standard 100-point scale, with each weighted in accordance with the schedule depicted above. Please note that there are two (2) Position Papers, thus each will be worth 10% of the final grade (for a total of 20%); also, the four Weekly Discussions (see Weekly Topics & Assignments table for details), thus each will be worth 5% of the final grade (for a total of 20%). A brief explanation of each requirement category follows; a more in-depth discussion is given in the Assignments section.

(1) <u>Position Papers (20%)</u>
Students will write two (2) brief (no more than 2 double-spaced pages) papers, each worth 10%, reflecting students evaluation of a particular analytical thinking / research reasoning related topic. The purpose of a position papers is to allow students to reflect on a particular topic in a manner that 1. demonstrates the student's comprehension of the essence of a particular notion, and 2. enables the student to express his/her own point of view with regard to the value or utility of that notion. Simply put, it is akin to saying: 'I understand X to mean _____, and from my perspective, I see it as

beneficial/useful, or not, because _____'. It is important that both of the two aspects be fully addressed.

(2) <u>Applied Research Project (30%)</u>
This is one of the two largest components of the final grade, thus it is important to approach it as a substantial undertaking. The main purpose of this assignment is to demonstrate that the student not only grasps the meaning of the various notions discussed in this course, but is also able to funnel those concepts into well thought out, well researched and substantiated overview, summary and critique of the focal (i.e., chosen by the student) organization's data governance, security and usage practices, as detailed below in the Assignments section.

(3) <u>Final Exam (30%)</u>
The exam will be proctored (i.e., supervised) and students will not have access to course materials, notes, textbooks or any other materials. The purpose of the exam is to test the student's <u>comprehension</u> of the key notions discussed in this course – as such, the exam will be comprised of 30 questions and two essays. The questions will be comprised of 25 multiple choice and 5 short answer (fill in the blank). The dominant format will be that of a business scenario where students will expected to <u>apply</u> their understanding of research design related concepts.

(4) <u>Group Discussions (20%)</u>
Although this is an asynchronous course, active engagement in the assigned discussion blogs demands that students provide timely input into those discussions. To be considered timely, student comments must be entered within the assigned week – please note that any comments added outside of (i.e., before or after) the assigned week will <u>not be counted.</u>

Grading-Related Policies for this Course:

The two (2) position papers and the applied research project are to be submitted <u>electronically</u> using Blackboard by **11:59 pm of the due date**. There will be **NO** late work accepted.

The discussion boards (4) and the final exam (1) will be administered and submitted <u>electronically</u> using Blackboard and submissions are due by **11:59 pm of the due date.** There will be **NO** late work accepted.

Final grades will be based on a percentage of possible points earned. But the instructor reserves the right to give a curve to adjust the average course grade.

Assignments:

Position Papers

<u>Position Paper 1</u>
Regardless of industry, business organization struggle trying to balance the two seemingly opposing data related considerations: data security vs. data usage. Quite commonly, organizational infrastructure managers (such as chief technology officers, etc.) charged with data security strive to limit access to data as a way of mitigating the possibility data breaches, theft and related problems, while functional managers (such as chief marketing officers, brand managers, etc.) tend to favor broader and easier access to organizational data, as a way of encouraging more fact-based planning and decision making. Is it possible

for organizations to simultaneously accomplish both objectives, namely, making their data as secure as possible while also maximizing the usage and the utility of their data? Take a position, clearly describe and substantiate your reasoning; be specific.

Position Paper 2
While US and EU Privacy Laws ('black letter') laws and regulations are generally very explicit in terms of behaviors that are either required or prohibited in terms of organizational data capture, access, usage and protection, ethical obligations incurred by organizations as a result of amassing detailed customer/client/patient/user data tend to be comparatively less obvious. Picking an organization of choice (e.g., a current employer, a professional organization of which you are a member, etc.), identify and briefly discuss some of the data related legal obligations, and what you believe to be either current or emerging ethical challenges as a result of amassing detailed customer/client/patient/user data.

Applied Research Project

Assume you are a newly appointed Chief Information Officer at an organization of your choosing (could be your current employer, a professional organization you're involved with, or a company you are interested in – please make sure, however, that whatever organization you pick is adequately large to enable you to conduct meaningful research, for the purposes of this project). Given the importance of data as a strategic organizational asset, and the potential liability associated with inadequate data security, one of your top priorities is to conduct a thorough *data audit*, with particular emphasis on detailing data security measures and protocols, and data access, usage and sharing mechanisms and protocols. Your task is as follows:
1. to catalog and describe data capture, purchased and otherwise owned by your organization;
2. to describe specific data access, usage and sharing protocols, and technologies employed and deployed, respectively, by your organization expressly for the purpose of data governance and security;
3. to identify 'best practices' in relation to #2 above, as used by your organization's peers (e.g., competitors, other companies in the same industry);
4. to identify 'points of excellence' (i.e., where your organization's practices reflect the industry's best practices) and 'areas in need of improvement' (i.e., where your organization's practices are noticeably below those of peer companies);
5. to outline the recommended plan for maintaining 'points of excellence' and rectifying 'areas in need of improvement'.

Class Policies:

1. Academic Integrity
   See Merrimack College Student Handbook for college's Academic Integrity Policy. The academic integrity code and policy is also posted on the Office of the Provost's web site: http://www.merrimack.edu/about/offices_services/office-of-the-provost/academic-integrity-code.php. Here is a brief excerpt from that: "…Academic integrity is fundamental to creating and maintaining an atmosphere of cooperation and trust. It is thus a concern for everyone in the college community. The academic integrity code below is designed to help students understand what is not permissible in their academic and intellectual lives at the college. It seeks to protect students from unintentional acts of dishonesty and to preserve the trust inherent in the student-teacher relationship, which is compromised if suspicion arises regarding the integrity of a student's work. The code is also designed to inform students of the rules which will be used to judge academic integrity infractions…"

2. Graduate Academic Catalog

The Graduate Academic Catalog can be located on the Registrar's web site:
http://catalog.merrimack.edu/index.php

2. Accommodations

Merrimack College provides reasonable accommodations for students with documented disabilities. Students who have, or think they may have, a disability are invited to contact the Accessibility Services Office via the online request form: www.merrimack.edu/accessibility, email: accessibilityservices@merrimack.edu or by visiting us on the third floor of McQuade Library.

Students are encouraged to contact the office as soon as possible to ensure adequate time to meet and create a plan. Accommodations can not be made retroactively

3. Live Meeting Attendance

Participation in weekly live meetings is highly encouraged, but it is not mandatory. All sessions will be recorded and recordings will be posted; however, when not attending students forego the ability to directly ask questions about topics being discussed, or other parts of the course.

4. Writing and Citations

Professional business writing is expected for this course. All written assignments should follow business writing standards and guidelines, contain citations (APA style) to reference content, and be free of spelling and grammatical errors. A rubric shall be utilized for written assignments to provide guidelines and criteria used to score and grade work.

Additional APA reference.
Written assignments in this course we will follow the APA formatting guidelines. Some excellent tips and guides are available to you via Purdue University's Online Writing Lab (Purdue OWL):
https://owl.english.purdue.edu/owl/resource/560/01/

5. Requests for Extensions

The general policy is that, outside of properly verified serious medical emergencies* (as defined below), extensions are not given, which applies to the Final Exam, Position Papers and Analytic Plan. Missing an assignment without an acceptable reason (to be clear, that means a serious medical emergency, as defined below) will result in 0 points for the exam or a project. The intent here is not to penalize anyone – quite to the contrary, it is to create a level playing field so that no one has a unique and an unfair advantage. The exam and project due dates are published (see the Live Meetings, Topics & Assignments section below) and will not change, barring a natural or other emergency – please consider those dates when planning any non-class related activities.

*Serious medical emergency is defined as an injury or illness that is acute and poses an immediate risk to a person's life or long term health. To be "properly verified", the said serious medical condition must be attested to by hospitalization and related medical treatment documentation.

Weekly Topics & Assignments

Week	Learning Objective	Topics	Readings, Activities and Assignments
Week 1	LO5 - Evaluate key considerations surrounding the use of data for business insight, including access, usage, and data quality.	Introduction Frameworks Pillars of Data Governance Organizational and systems impacts Decision-making impacts	Gregory, A. (2011). Data governance—Protecting and unleashing the value of your customer data assets. Journal of Direct, Data and Digital Marketing Practice, 12(3), 230-248. https://drive.google.com/open?id=1Oio-GJ6U3eor_b5zZv3ZtKdugAPMhIxT *15 pages* Judah, S. (2016). Create an Effective Information Risk Framework for Data and Analytics Programs, ID: G00299558, Gartner. (Course PDF) https://drive.google.com/open?id=1tB43M9eS5dnKE-OZdtSKED4nGZ5Fmn0p *11 pages* Khatri, V., & Brown, C. V. (2010). Designing data governance. Communications of the ACM, 53(1), 148-152. https://drive.google.com/open?id=16_JtrWQm3kh1gH9pOd_3gtHz9dIMCbUV *6 pages* Laney, D. (2016). Why and How to Measure the Value of Your Information Assets, ID: G00277972, Gartner. (Course PDF) https://drive.google.com/open?id=1PNV8YzaH7wUR1GVCnmiRdXfZ1qs32J9U *22 pages* Melis, A. (2000). Corporate governance in Italy. Corporate Governance: an international review, 8(4), 347-355. https://drive.google.com/open?id=1LtBOmHy-5rbi1g3lXGKEssPB1f9ejSJn or http://onlinelibrary.wiley.com/doi/10.1111/1467-8683.00213/full *8 pages* ISACA (2018). COBIT® 2019 FRAMEWORK: INTRODUCTION & METHODOLOGY. ISACA, Schaumburg, IL (USA). (PDF) https://drive.google.com/file/d/1Y0FLw3hf0nbERVu25jA0zzDChGVxSRGF/view?usp=sharing *30 pages* (Website) Thomas, G. (2006). The DGI data governance framework. The Data Governance Institute, Orlando, FL (USA). http://www.datagovernance.com/the-dgi-framework/ *(no reading, for reference only)* Thomas, G. (2006). The DGI data governance framework. The (PDF) Data Governance Institute, Orlando, FL (USA).] https://drive.google.com/open?id=1bstxP1bnqvvS1uT3m8pHk

Week	LO	Topics	Readings
			aXOA0853HGf *20 pages* Tratz-Ryan, B & Howard,R. (2017). Data Governance and User Context Are Pillars of Sustainable Data Marketplaces in Cities, ID: G00315170, Gartner. (Course PDF) https://drive.google.com/open?id=1mNLWWCcBIH6N6Bmfm MPHorYt9OzIYyHp *12 pages*
Week 2	LO1 - Understand the logic, the key elements and processes of the US regulatory and legislative framework, as applicable to capture, storage and usage rights and obligations	Role of government agencies Regulation of data Federal Trade Commission Act Financial Services Modernization Act Health Insurance Portability and Accountability Act Family Educational Rights and Privacy Act of 1974 Fair Credit Reporting Act Electronic Communications Privacy Act Computer Fraud and Abuse Act California Civil Code §1798.82 Data security – the legal/regulatory framework The Stored Communications Act	Cobb, S. (2016) Data privacy and data protection: US law and legislation. Electronic Privacy Information Center. Retrieved from https://drive.google.com/open?id=1CZkVnwUmHVsnSck x8oZniVsOq3fls4EU *Pages 1 - 15* Fairclough, B. (2016). Privacy piracy: The shortcomings of the united states' data privacy regime and how to fix it. Journal of Corporation Law, 42(2), 461-480. Retrieved from Proquest-com. https://drive.google.com/open?id=1Y9KIylm36w-iy16pBOogI3f6fEfhWvJf *Pages 1 – 21* Jolly, L. (2016, Jul. 1) Data Protection in the United States: Overview. Thompson Reuters Practical Law. Retrieved from https://drive.google.com/open?id=1K9x6LlOdG9K6heFD BSvOzubASkJEDZC- *Pages 1 - 25*

		The Fourth Amendment	
		Dodd-Frank	
		Gramm Leach Bliley Act (GLBA)	
		The Sarbanes-Oxley Act (SOX) of 2002	
Week 3	LO1 - Understand the logic, the key elements and processes of the US regulatory and legislative framework, as applicable to capture, storage and usage rights and obligations	Categorization of data Data classification in private industry Personnel classification	Carnegie Mellon University (2015) Guidelines for Data Classification. Retrieved from https://drive.google.com/open?id=1dYG7rNwiUnjtPZxjUNbE2r88-d1Jd_w6 Matthews, D. R. (2016). Electronically stored information: The complete guide to management, understanding, acquisition, storage, search, and retrieval, second edition (Second;2;2nd;Second; ed.). Boca Raton: Auerbach Publishers Inc. [Books24x7 version] *Chapters 1 - 3 ; 157 Pages* https://drive.google.com/open?id=11V62GCQ4K-yPD9T-Y9sXb6xrGf-9iZYE National Institute of Standards and Technology (NIST) (2004) Federal Information Processing Standards ("FIPS") publication 199 Technology Retrieved from https://drive.google.com/open?id=1CHgtG2zqfyXyMBrKhEaCD0QGJkyae3Mj *Pages 1 - 13* New York University (2017) Data Classification Table. Retrieved from http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/data-classification.html **1 page** (https://drive.google.com/open?id=1YxqMki4j7T1lAXpJmQQbE85pir93sEIU) Tilenius, E. (2015) True Data Security Starts with User Access Control. Wellesley Information Services. Retrieved from https://drive.google.com/open?id=1zG_CZEErIwb2VUfPHOz1WC0ZZJ_Wgpo9 Wiech, D. (2016) How role-based access control can solve the problem of enterprise data security. Enterprise Apps Tech News. Retrieved from http://www.appstechnews.com/news/2016/feb/11/how-role-based-access-control-can-solve-problem-enterprise-data-security/

Week 4	LO2 - Identify the key considerations relating to organizational data capture rights and responsibilities LO3 - Analyze data security planning frameworks and ongoing management approaches and practices	Ownership and control of data Big data Sample of a data map Big data considerations Out of control Right to be forgotten	Berman, J. (2013) Principles of Big Data: Preparing, Sharing, and Analyzing Complex Information. [Books24x7 version] Chapter 13 - Legalities - https://drive.google.com/open?id=13LrNT7AwJpCCZeNCVzTjAEUBTc25Ggjt - *Read Chapter 13. Legalities.* Matthews, D. R. (2016). Electronically stored information: The complete guide to management, understanding, acquisition, storage, search, and retrieval, second edition (Second;2;2nd;Second; ed.). Boca Raton: Auerbach Publishers Inc. . https://drive.google.com/open?id=1NfL_YI-BO9RAYEeYozJx24UP0ma9quWR Chapters 4, 5: 56 Pages Nielsen, M. (2015, Jan. 5) Who Owns Big Data? Open Mind. Retrieved from https://drive.google.com/open?id=1ZMUj4wD-AAIb2ILEwrr59QPuW-zDuDrR Silverman, D. L. (2017). Developments in data security breach liability. The Business Lawyer, 72(1), 185-194. ProQuest 9 Pages https://drive.google.com/open?id=1amXW9RrsLweUv3kvvAsfApkNQmy4iXFO Wigan, M. R., & Clarke, R. (2013). Big data's big unintended consequences. Computer, 46(6), 46-53. doi:10.1109/MC.2013.195 Pages 1 - 8 https://drive.google.com/open?id=1hkTYjJKfaqs_B-cubilHQ6ajxdEtR9MP
Week 5	LO2 - Identify the key considerations relating to organizational data capture rights and responsibilities LO3 - Analyze data security planning frameworks and ongoing management	Data governance Data Governance and Stewardship, from the National Center for Education Statistics Controlling access to data Tangibility of data ethics: Data access, usage and sharing considerations	Faculty Development and Instructional Design Center (n.d.) Data Ownership. Northern Illinois University. Retrieved from https://ori.hhs.gov/education/products/n_illinois_u/datamanagement/dotopic.html 1 page Ladley, J. (2012). Data governance: How to design, deploy and sustain an effective data governance program. US: Morgan Kaufmann Publishers Inc. [Books24x7 version] - https://ebookcentral.proquest.com/lib/merrimack/detail.action?docID=1032951 - Chapters 1 - 3 32 pages

	approaches and practices LO4 - Evaluate key ethical and legal considerations surrounding privacy, access, usage and third-party sharing of data	Ethical frameworks Big data ethics policy	Matthews, D. R. (2016). Electronically stored information: The complete guide to management, understanding, acquisition, storage, search, and retrieval, second edition (Second;2;2nd;Second; ed.). Boca Raton: Auerbach Publishers Inc. . https://drive.google.com/open?id=1NfL_YI-BO9RAYEeYozJx24UP0ma9quWR Chapters 6, 7 14 Pages National Center for Education Statistics. (2011) Data Governance Checklist. Retrieved from https://drive.google.com/open?id=1oBLSmXWPIdsbhG5FAgRAoalfWxJDK1Ad 7 Pages Richards, N. M., & King, J. H. (2014). Big data ethics. Wake Forest Law Review, 49(2), 393. EBCSOHost 44 Pages - https://drive.google.com/open?id=1VLRESUGiEt6-CfbWJsEevHoywMqA-utC Thomas. G. (n.d.) Assigning Data Ownership. Data Governance Institute. Retrieved from http://www.datagovernance.com/assigning-data-ownership/ 1 page Zwitter, A. (2014). Big data ethics. Big Data & Society, 1(2), 1-6. Sage Publications 6 Pages - https://drive.google.com/open?id=1rqqfrXtyV8NYZW5LOXlm9wZ728iiJiPm
Week 6	LO5 - Evaluate key considerations surrounding the use of data for business insight, including access, usage, and data quality.	Techniques for assessing information quality Mechanisms for improving data quality Data Governance and stewardship to drive authoritative data	Berson, A., & Dubov, L. (2010). Master Data Management and Data Governance, 2/E. McGraw Hill Professional. Chapter 12: Building a Business Case and Roadmap for MDM, pages 285-310. https://drive.google.com/open?id=1CU5h3_JUQ7hbFo93pIENaiet5d8Qfvew Bloomberg Blog (2017). Blog- Machine learning plays a critical role in improving data quality. Retrieved from https://www.bloomberg.com/professional/blog/machine-learning-plays-critical-role-improving-data-quality/

		Correlating high quality information to high quality decision making Mechanisms for improving data quality Machine Learning techniques for improving the quality of data Increased quality drives high-quality decision-making	Craft, L. (2017). Use the Three Rings of Information Governance for Classifying Healthcare Data, ID: G00295502, Gartner. (Course PDF) https://drive.google.com/open?id=1tguOhsWYSO7Rzp9Sawey6OmSYn1GK2BV GSA Information Quality Guidelines-Section 515. July 2007 - New link: https://www.gsa.gov/portal/content/104725 Knight, S. A., & Burn, J. (2005). Developing a framework for assessing information quality on the World Wide Web. Informing Science, 8. - https://www.informingscience.org/Publications/493?Source=%2FJournals%2FInformingSciJ%2FArticles%3FVolume%3D8-2005 Laney, D. (2016). Why and How to Measure the Value of Your Information Assets, ID: G00277972, Gartner. (Course PDF) https://drive.google.com/open?id=1XhgIdin7KpWRH2D0ge6Vlz9_r_om_gU6 Picker Institute (2006). Assessing the quality of information to support people in making decisions about their health and healthcare https://drive.google.com/open?id=1Yqfp9T_mFTr8um0fiC4FNc0ZcAgVZtCX Westman, R. (2009, September 2). Retrieved August 5, 2017, from http://csrc.nist.gov/news_events/privilege-management-workshop/presentations/Roger_Westman.pdf
Week 7	LO5 - Evaluate key considerations surrounding the use of data for business insight, including access, usage, and data quality.	Leveraging common data ontology and definitions to increase the quality of our decision making Semantic Frameworks and Ontology to support data definition, security, privacy, auditability	Kovalenko, O., Serral, E., Sabou, M., Ekaputra, F. J., Winkler, D., & Biffl, S. (2014, November). Automating cross-disciplinary defect detection in multi-disciplinary engineering environments. In International Conference on Knowledge Engineering and Knowledge Management (pp. 238-249). Springer Publishing. https://drive.google.com/drive/u/2/folders/1O5IoRlE1P5ijcRkCy0J-j99XJhPDSX6j?ogsrc=32 Moghe, P. (2009). Controlling risk with a data governance framework. Bank Accounting & Finance, 8943958, 49-51.

| | | If you have a common data definition, it makes the data more audit-able, and provides a framework for control (privacy, security | https://drive.google.com/open?id=1mkYP-aGk-RNxEOo62HdtAhgADJijDpg5

Neuschmid J. and Vavra, J. (August, 2016). The Next Generation of Data Integration Enable by Semantic Technologies, Retrieved from https://drive.google.com/open?id=1biMIs2uNJNAlxWY-SDH2Uc4Cen73cZZe

Thomas, G. (2013). The DGI Data Governance Framework, Data Governance Institute. Retrieved August 5, 2017 from https://drive.google.com/open?id=1EUdHKxaR47V9HCZ3vQtgjpg6r0az3Pt3

US Congress (2015), Cybersecurity Information Sharing Act of 2015, Retrieved from https://drive.google.com/open?id=1qb_1xi3McQ-LxnXfVcF_Q2uR4Vka_iGG

Wache, H., Voegele, T., Visser, U., Stuckenschmidt, H., Schuster, G., Neumann, H., & Hübner, S. (2001, August). Ontology-based integration of information-a survey of existing approaches. In IJCAI-01 workshop: ontologies and information sharing (Vol. 2001, pp. 108-117). - https://drive.google.com/open?id=1HV5mtWlRttN1SEMW3KG2_i2Yh99pe_a0

[Previously Assigned - refresher]:

Berson, A., & Dubov, L. (2010). Master Data Management and Data Governance, 2/E. McGraw Hill Professional. Chapter 12: Building a Business Case and Roadmap for MDM, pages 285-310 (review).

Laney, D. (2016). Why and How to Measure the Value of Your Information Assets, ID: G00277972, Gartner. (Course PDF) |
| Week 8 | Final Exam | Applied research project

Final exam review | (All) |

BUAG5314 & DSEG5315's Contribution to the DS&A Program

BUAG5314 / DSEG5315 is a course through which we deliver our DS&A program to our graduate students. The course contributes to students' development and specifically includes working with students to improve several overarching analytical skills. These skills are listed under Program Learning Objectives. In addition, students in this course gain knowledge about particular topics that are key topics in data science and business analytics. These are listed under Program Course Content.

DS&A Program Learning Objectives Addressed by this Course: BUAG5314

1. Understanding of legal and appropriate/ethical means of using available data (Planning).
   - Applied research project

2. Ability to communicate data analytic results in legal and ethical manner (Communication).
   - Position Paper 1
   - Position Paper 2

DS&A Program Content Delivered by this Course: BUAG5314

- Analytic planning: Understanding what available data can be used as input into analyses, from legal and ethical points of view

- Communication: Understanding how data analytical outcomes can be shared with internal and external constituents to assure adherence to applicable laws and regulations, as well as current and emerging ethical norms

DS&A Program Learning Objectives Addressed by this Course: DSEG5315

3. Understanding of legal and appropriate/ethical means of using available data (Selection).
   - Applied research project

4. Ability to communicate data analytic results in legal and ethical manner (Scoring).
   - Position Paper 1
   - Position Paper 2

DS&A Program Content Delivered by this Course: DSEG5315

- Selection: Understanding what available data can be used as input into analyses, from legal and ethical points of view

- Scoring: Understanding how data analytical outcomes can be shared with internal and external constituents to assure adherence to applicable laws and regulations, as well as current and emerging ethical norms