

<Master of Science in Data Science >

ASSESSMENT REPORT ACADEMIC YEAR 2018 – 2019 REPORT DUE DATE: 10/26/2019

Who should submit the report? – All majors, minors (including interdisciplinary minors), graduate and non-degree granting certificate programs of the College of Arts and Sciences. Programs can combine assessment reports for a major and a minor program into one aggregate report as long as the mission statements, program learning outcome(s) evaluated, methodology applied to each, and the results are clearly delineated.

Note: Dear Colleagues: In an effort to produce a more streamlined and less repetitive assessment report format, we are piloting this modified template for the present annual assessment cycle. We are requesting an assessment report that would not exceed eight pages of text. Supporting materials may be appended. We will be soliciting your feedback on the report as we attempt to make it more user-friendly.

Some useful contacts:

- 1. Prof. Alexandra Amati, FDCD, Arts <u>adamati@usfca.edu</u>
- 2. Prof. John Lendvay, FDCD, Sciences <u>lendvay@usfca.edu</u>
- 3. Prof. Mark Meritt, FDCD, Humanities meritt@usfca.edu
- 4. Prof. Michael Jonas, FDCD, Social Sciences mrjonas@usfca.edu
- 5. Prof. Suparna Chakraborty, AD Academic Effectiveness <u>schakraborty2@usfca.edu</u>
- 6. Ms. Corie Schwabenland, Academic Data & Assessment Specialist- ceschwabenland@usfca.edu

Academic Effectiveness Annual Assessment Resource Page:

https://myusf.usfca.edu/arts-sciences/faculty-resources/academic-effectiveness/assessment

Email to submit the report: <u>assessment_cas@usfca.edu</u>

Important: Please write the name of your program or department in the subject line. For example: FineArts_Major (if you decide to submit a separate report for major and minor); FineArts_Aggregate (when submitting an aggregate report)

I. LOGISTICS & PROGRAM LEARNING OUTCOMES

1. Please indicate the name and email of the program contact person to whom feedback should be sent (usually Chair, Program Director, or Faculty Assessment Coordinator).

Nicholas Ross (<u>ncross@usfca.edu</u>)

Stephen Devlin (smdevlin@usfca.edu)

2. Were any changes made to the program mission statement since the last assessment cycle in October 2018? Kindly state "Yes" or "No." Please provide the current mission statement below. If you are submitting an aggregate report, please provide the current mission statements of both the major and the minor program.

No.

3. Were any changes made to the program learning outcomes (PLOs) since the last assessment cycle in October 2018? Kindly state "Yes" or "No." Please provide the current PLOs below. If you are submitting an aggregate report, please provide the current PLOs for both the major and the minor programs.

Note: Major revisions in the program learning outcomes need to go through the College Curriculum Committee (contact: Professor Joshua Gamson, <u>gamson@usfca.edu</u>). Minor editorial changes are not required to go through the College Curriculum Committee.

Yes, our PLOs were changed in December of 2018 and ratified by a vote of the faculty to the following:

- 1. Possess a theoretical understanding of classical statistical models (e.g., generalized linear models, linear time series models, etc.), as well as the ability to apply those models effectively.
- 2. Possess a theoretical understanding of machine learning techniques (e.g., random forests, neutral networks, naive Bayes, k-means, etc.), as well as the ability to apply those techniques effectively.
- 3. Effectively use modern programming languages (e.g., R, Python, SQL, etc.) and technologies (AWS, Hive, Spark, Hadoop, etc.) to scrape, clean, organize, query, summarize, visualize, and model large volumes and varieties of data.

- 4. Prepare for careers as data scientists by solving real-world, data-driven, business problems with other data scientists, and understand the social, ethical, legal, and policy issues that increasingly challenge and confront data scientists.
- 5. Develop professional communication skills (e.g., presentations, interviews, email etiquette, etc.), and begin integrating with the Bay Area data science community.

4. Which particular Program Learning Outcome(s) did you assess for the academic year 2018-2019?

Two PLOs were assessed this year:

- (1) Program Learning Outcome 4. Be prepared for careers as data scientists by solving real-world data-driven business problems with other data scientists.
- (2) Program Learning Outcome 5. Develop professional communication skills (e.g., presentations, interviews, email etiquette, etc.), and begin integrating with the Bay Area data science community.

II. METHODOLOGY

5. Describe the methodology that you used to assess the PLO(s).

For example, "the department used questions that were inputted in the final examination pertaining directly to the <said PLO>. An independent group of faculty (not teaching the course) then evaluated the responses to the questions and gave the students a grade for responses to those questions."

Important Note – WSCUC advises us to use "direct methods" which relate to a <u>direct evaluation of</u> <u>a student work product</u>. "Indirect methods" like exit interviews or student surveys can be used only as additional I complements to a direct method.

<u>For any program with fewer than 10 students</u>: If you currently have fewer than 10 students in your program (rendering your statistical analysis biased due to too few data points), it is fine to describe a multi-year data collection strategy here. It would be important to remember that <u>every 3 years</u>, we would expect you to have enough data to conduct a meaningful analysis.

Important: Please attach, at the end of this report, a copy of the rubric used for assessment.

Three data science faculty contributed representative questions from one of more exam or quiz.

The table below contains the list of courses that are being assessed along these dimensions. A description of the assessment plan for different groups of courses can also be found in the descriptions below.

Traditional Course Assessment:

610: Communications for Analytics 603: Product Analytics

We choose to assess the final presentations for both Product Analytics and Communications for Analytics. Rubrics for the final presentation can be found in Additional Material #9 and #10. Note that product analytics is a group project-based courses (students work in teams between 5-10 people to build a web-app over 7 weeks) while Communications for Analytics is a more traditional course.

The distribution of Final presentation grades for Communications for Analytics can be found below. Note that the presentation was out of 22 points.



We define mastery as 22, incomplete mastery as 21, partial mastery as 19 or 20 and did not master at less than 18.

The underlying dimensions of this assessment are also shown in the table below. Note that different criteria were out of different amount of points.



From the above we can see that the most common failures are along verbal communication.

For product analytics we looked at the final, in-course presentation and this was assessed against the rubric in the additional materials. The box-and-whisker chart below contains the distribution of final grades. The high was 63 and the low was 43 with most students scoring between high 40s and high 50s.

Breaking down the total by each section yields the following table. Note that some of the criteria are out of 20 and some are out of 10, which is why the headings are labeled as such.

	Presentation Skills	Presentation Content	Product Demonstration	Product Polish
Perfect	2	2	3	3
18+/8+	4	2	2	7
15+/6+	3	5	7	3
Other	4	4	1	0

As can be seen in the above the "Product Demonstration" area was where students did not demonstrate the highest level of mastery.

Direct Job Assessment:

640: Seminar Series I
641: Seminar Series II
642: Seminar Series III
643: Seminar Series IV
644: Seminar Series V
10 Hours of required interview training

We directly assess these by looking at the rate by which students get jobs. MSDS program outcomes are strong. Given the industry focus of the program, the primary metric for evaluation is employment and almost all students receive offers before or shortly after completion of the program. See Table below. (Note that for 2019, we are only 3 months out from graduation, but have already obtained 95% with offers and have a current median salary of \$120,000. Detailed data below.

Graduation Year	Offers at 6 Months	Median Base Salary	Max Salary	Most Common Job Title	Employed by Practicum Company
2018	100%	\$120,000	\$177,000	Data Scientist (64%)	15%
2017	98%	\$110,000	\$180,000	Data Scientist (49%)	13%
2016	100%	\$110,000	\$125,000	Data Scientist (56%)	15%
2015	100%	\$100,000	\$160,000	Data Scientist (47%)	26%
2014	100%	\$90,000	\$160,000	Data Analyst (43%)	4%
2013	100%	\$85,000	\$100,000	Data Scientist (33%)	0%

Median starting salaries remain consistent across demographics, with women and international students earning salaries equivalent to those of all graduates. Female and international graduates in 2018 earned a median base salary of \$120,000. Graduates with no prior work experience earned a median base salary of \$115,000. The return on investment of this program remains very high as graduates who were working before entering the program increased their median base salary by an average of \$50,000 after graduation.

Since 2012, 52% of graduates were hired with the title of data scientist, 14% as data analysts, and 8% as machine learning or data engineers. The top companies that hire from our alumni pool include Amazon (9), Apple (5), Facebook (9), Google (6), Pinterest (4), Trulia (4), Uber (5), and Walmart (4). Graduates continue to advance in their careers as 17% of graduates now hold the title of senior, manager, director or lead.

As part of the practicum class, faculty mentors work closely with students to ensure maximal success on the job market. This includes several rounds of editing resumes and vetting them for appropriateness for technical job applications. Since acquiring a job is process with much randomness, faculty also track via spreadsheet the number of weekly job applications to ensure that the volume is sufficient. Students who have struggled on the job market often fail to apply to enough positions.

In the Appendix of this document (Additional Material #1, #2 and #3), you can find material showing specific examples of how these things are tracked, how communication occurs and

Direct Job Assessment & Behavioral Assessment:

605: Practicum I		
625: Practicum II		
627: Practicum III		
632: Practicum IV		

The practicum is the required internship program associated with the Masters of Data Science. Students work in a variety of different industries and under multiple working conditions. Due to the variability in the work (as well as NDAs and other employment agreements), direct, on-the-job, performance assessment is difficult to consistently get. We have a multi-pronged strategy on practicum assessment:

- Regular check-ins with each company (see example email in Additional Materials #6). Periodic emails are sent to the company mentors to verify that things are progressing in accordance with their expectations.
- 2. Faculty mentor check-ins. The practicum director speaks with the faculty mentors on a regular basis to verify that students are performing.
- 3. Weekly Practicum update form (see Additional Material #7 for the form). Students are required to do a weekly practicum update form which contains information about the work that they have done.

III. RESULTS & MAJOR FINDINGS

6. What are the major takeaways from your assessment exercise?

This section is for you to highlight the results of the exercise. Pertinent information here would include:

- a. how well students mastered the outcome at the level they were intended to,
- b. any trends noticed over the past few assessment cycles, and
- c. the levels at which students mastered the outcome based on the rubric used.

To address this, among many other options, one option is to use a table showing the distribution, for example:

Level	Percentage of Students
Complete Mastery of the outcome	8.7%
Mastered the outcome in most parts	20.3%
Mastered some parts of the outcome	66%
Did not master the outcome at the level	5%
intended	

For these PLO's are major assessment is job placement and making sure that students get jobs within 3 months of graduation in the field of data science. Based on that metric, over 90% of students have demonstrated mastery of the material.

Level	Percent of Students
Complete Mastery of the outcome	>90%
Not complete Masters of the outcome	<10%

IV. CLOSING THE LOOP

7. Based on your results, what changes/modifications are you planning in order to achieve the desired level of mastery in the assessed learning outcome? This section could also address more long-term planning that your department/program is considering and does not require that any changes need to be implemented in the next academic year itself.

Short term: Product analytics will add more details around how to do a better product demonstration, as this was obviously a weak point for the students.

Longer term: Continue monitoring and investing in job outcomes and placement to make sure that we continue on this path.

We may also want to talk about having better gradations around our placement metrics. For example, tracking number of jobs before graduation, etc. in order to identify potential slippage in outcomes. 8. What were the most important suggestions/feedback from the FDCD on your last assessment report (for academic year 2016-2017, submitted in October 2017)? How did you incorporate or address the suggestion(s) in this report?

N/A

ADDITIONAL MATERIALS

(Any rubrics used for assessment, relevant tables, charts and figures should be included

here)

Additional Material #1: Sample student Job spreadsheet

This is a sample of one of the student's job spreadsheet that they are required to do during their time in the program. It contains information on what jobs they have applied to, when they applied and what response they received. All students are required to fill this out until they graduate.

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fx	# Alive?						
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1	# Alive?	Dead(0)/Live(1)	Company	Job Posting URL	Position Name	Date Applied	Last Contact
2	21	0	Rauxa	https://www.linkedin.com/jobs/view/1154281002/?eBP=JOB_S	Machine Learning Engineer	2019-03-10	2019-03-10
3	1	1	Intron Idea labs	https://www.linkedin.com/jobs/view/1139281963/?eBP=JOB_S	Machine Learning Engineer	2019-03-10	2019-03-10
4	3	0	MasterClass	https://www.linkedin.com/jobs/view/1092867016/?eBP=CwEA	DataScientist	2019-03-25	2019-03-25
5		0	Siren	https://www.linkedin.com/jobs/view/977559826/?eBP=JOB_SE	DataScientist	2019-03-25	2019-03-25
6		0	Mode	https://www.linkedin.com/jobs/view/1159032990/?trk=easyapp	DataScientist	2019-03-25	2019-03-27
7		0	Margeta	https://www.linkedin.com/jobs/view/1115404551/?trk=easyapp	DataScientist	2019-03-25	2019-03-25
8		0	Underdog.io	https://www.linkedin.com/jobs/view/1147308706/?eBP=JOB_S	DataScientist	2019-03-25	2019-03-25
9		0	Burtch works	https://www.linkedin.com/jobs/view/1167089944/?eBP=JOB_S	DataScientist	2019-03-25	2019-03-25
0		0	Nagarro	https://www.linkedin.com/company/nagarro/	DataScientist	2019-03-25	2019-03-25
1		0	Kenshoo	https://www.linkedin.com/jobs/view/1173965997/?eBP=JOB_S	DataScientist	2019-03-25	2019-03-27
2		0	Cloudflare	https://www.linkedin.com/jobs/view/1136173857/?eBP=JOB_S	DataScientist	2019-03-25	2019-03-25
3		0	Understanding Recr	https://www.linkedin.com/jobs/view/461868660/?eBP=JOB_SE	DataScientist	2019-03-25	2019-03-25
4		0	Bold Metrics	https://www.linkedin.com/jobs/view/909772831/?eBP=CwEAA	DataScientist	2019-03-26	2019-03-26
5		0	Enigma	https://www.linkedin.com/jobs/view/1169062103/?eBP=JOB_S	DataScientist	2019-03-27	2019-03-27
6		0	Square Space	https://www.linkedin.com/jobs/view/1169538774/?eBP=JOB_S	DataScientist	2019-03-28	2019-03-28
7		0	Activision Blizzard	https://www.linkedin.com/jobs/view/1193326156/?eBP=JOB_S	DataScientist	2019-03-29	2019-03-29
8		0	KForce	https://www.linkedin.com/jobs/view/1171376494/?eBP=JOB_S	DataScientist	2019-03-29	2019-03-29
9		0	MScience	https://www.linkedin.com/jobs/view/1096443460/?eBP=JOB_S	DataScientist	2019-03-29	2019-03-29
0		0	Quick Pivot	https://www.linkedin.com/jobs/view/1126638834/?eBP=JOB_S	DataScientist	2019-03-29	2019-03-29
1		0	Spark Insights	https://www.linkedin.com/jobs/view/1129255074/?trk=easyapp	DataScientist	2019-03-29	2019-03-29
2		0	FlexGen	https://www.linkedin.com/jobs/view/1172346450/?eBP=JOB_S	DataScientist	2019-03-29	2019-03-29
23		0	MZ	https://www.linkedin.com/jobs/view/1145310957/?eBP=JOB_S	DataScientist	2019-04-01	2019-04-01
4		0	Macys	https://www.linkedin.com/jobs/view/1159679456/	DataScientist	2019-04-01	2019-04-01
5		0	Tubi	https://www.linkedin.com/jobs/view/1196942546/	DataScientist	2019-04-01	2019-04-01
26		0	Etsy	https://www.linkedin.com/jobs/view/1190139877/	DataScientist	2019-04-01	2019-04-01

Additional material #2: Job Tracking Spreadsheet

We have two stages of monitoring job outcomes. The first stage involves taking information from each student's spreadsheet and collating it into a single document. A screenshot of this document is shown below.

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Kiva	Anush Kocha F	-	Steve	0		https://docs.	Anus	h Kocha	23	0	0	2	3	7	9	9	11	11	11	15	15	19	19	23
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Fandom	Byron Han	N	David	0		https://docs.	Byro	n Han	337	5	12	45	45	45	52	88	96	96	96	96	99	150	282	337
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Orange	Evan Liu M	N	Nick	0		https://docs.	Evan	Liu	130	4	6	8	10	14	16	20	32	34	41	58	79	102	130	130
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kwh analytic	s Hongdou Li F	-	Jeff	0		https://docs.	Hong	dou Li	153	2	2	4	4	10	12	15	17	20	23	30	42	74	107	153
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Each row represents a student and each column represents the total number of jobs that they have applied to up till the date listed. We track this information for every student, making sure that they are applying to jobs which are appropriate and progressing accordingly.

Additional Materials #3: Sample Job Email

The email screenshot below is an example of the email sent to practicum mentors for each student each week. Practicum mentorship (from the faculty to the student) includes assisting the students in their job search. The email below is sent each week and gives easy access to student's job performance.

lere is your last weekly job report!										
Name	6/26	Since last week								
Anish Dalal	72	0								
Divya Bhargavi	151	0								
Jon-Ross Presta	163	20								
Max Alfaro	8	0								
Miguel Romero Calvo	208	31								
Robert Imre Sandor	248	17								
Shivee Singh	47	0								
Xiao Han	119	0								
Zack Pan	115	0								

Additional Material #4: List of Program Learning Outcomes

- 1. Possess a theoretical understanding of classical statistical models (e.g., generalized linear models, linear time series models, etc.), as well as the ability to apply those models effectively.
- 2. Possess a theoretical understanding of machine learning techniques (e.g., random forests, neutral networks, naive Bayes, k-means, etc.), as well as the ability to apply those techniques effectively.
- 3. Effectively use modern programming languages (e.g., R, Python, SQL, etc.) and technologies (AWS, Hive, Spark, Hadoop, etc.) to scrape, clean, organize, query, summarize, visualize, and model large volumes and varieties of data.
- 4. Prepare for careers as data scientists by solving real-world, data-driven, business problems with other data scientists, and understand the social, ethical, legal, and policy issues that increasingly challenge and confront data scientists.
- 5. Develop professional communication skills (e.g., presentations, interviews, email etiquette, etc.), and begin integrating with the Bay Area data science community.

Program Phase	B	oot	camp)	Fa	all M	odul	e On	e	Fa	all M	odu	le Tw	10	Int	ersession	Sp	Spring Module One		Dne	Spr	ing M	Mod	ule T	wo	Summer 2				
	MSAN 501: Computation for Analytics	MSAN 502: Review of Linear Algebra	MSAN 504: Review of Probability and Statistics	MSAN 593: Exploratory Data Analysis	MSAN 601: Linear Regression Analysis	MSAN 692: Data Acquisition	MSAN 610: Communications for Analytics	MSAN 691: Relational Databases	MSAN 640: Seminar Series I	MSAN 621: Introduction to Machine Learning	MSAN 604: Time Series Analysis	MSAN 694: Distributed Computing	MSAN 605: Practicum I	MSAN 641: Seminar Series II		MSAN 697: Distributed Data Systems	MSAN 628: Computational Statistics	MSAN 630: Advanced Machine Learning	MSAN 689: Problem Solving with Python	MSAN 625: Practicum II	MSAN 642: Seminar Series III	MSAN 622: Data Visualization	MSAN 629: Experiments in Data Science	MSAN 603: Product Analytics	MSAN 627: Practicum III	MSAN 643: Seminar Series IV	MSAN 631: Special Topics in Analytics	MSAN 627: Practicum IV	MSAN 644: Seminar Series V	10 required hours of Interview training
Program Phase	B	oot	camp)	Fa	all M	odul	e On	e	Fa	all M	odu	e Tw	10	Int	ersession	Sp	ring	Mod	ule C	Dne	Spr	ing I	Nod	ule T	wo	Sur	nme	r 2	 H
Units	1	1	1	1	2	2	1	1	0	2	2	1	1	0	_	2	2	2	1	2	0	2	2	2	2	0	2	1	0	
PL01			1	1	I						D		I				D			D			м		м		м	м		N
PLO2				I	I					D	I		I			D	м	М	D	D				D	D		М	М		
2LO3	I	I		I		D		D		D	I	м	I			D	D	м	D	D		D		Μ	D			Μ		
PLO4				I		I	I	T					D						D	D			D	D	м			м		N
PLO5							I		I				I	D						D	М			D	М	М		М	М	C
# PLOs supported by each course	1	1	1	4	2	2	2	2	1	2	3	1	5	1		2	3	2	3	5	1	1	2	4	5	1	2	5	1	

Below you can find the mapping of courses to PLOs.

Additional Material #6: Check in email example



Additional Material #7: Weekly check-in form

Practic	um Name
Veek	of (Start Date of Week)
tuder	nt Names
lours	/ Days worked
Locati	on worked
Weekl	y Faculty Meeting Date
• • /hat I/	In this section copy down the previous week's objectives. If there were no previous week objectives, leave this section empty. We achieved this week:
bjectiv	In this section state what you did in relation to the objectives above. If you were unable to do the previous week's objectives, please document that here. /e for next week: In this section put down your objectives for next week
bjectiv	In this section state what you did in relation to the objectives above. If you were unable to do the previous week's objectives, please document that here. ve for next week: In this section put down your objectives for next week Do NOT violate CPT. If you have questions on this, please ask.
• • • <u>1.</u> 2.	In this section state what you did in relation to the objectives above. If you were unable to do the previous week's objectives, please document that here. we for next week: In this section put down your objectives for next week Do NOT violate CPT. If you have questions on this, please ask. Do NOT write anything in this document that could be considered a violation of any NDA that you have signed. This document, while not public, should focus on your actions, not the results and should not contain any results or methods which the organization you work with might consider sensitive.
• • • <u>1.</u> 2. 3.	In this section state what you did in relation to the objectives above. If you were unable to do the previous week's objectives, please document that here. we for next week: In this section put down your objectives for next week Do NOT violate CPT. If you have questions on this, please ask. Do NOT write anything in this document that could be considered a violation of any NDA that you have signed. This document, while not public, should focus on your actions, not the results and should not contain any results or methods which the organization you work with might consider sensitive. In a normal week this should be filed in two places by SUNDAY night at 5pm. a. The slack channel b. An email to the following people: (a) Nick Ross, (b) your faculty mentor and (c) your organizational mentor(s).
• bjectiv • 1. 2. 3. 4.	In this section state what you did in relation to the objectives above. If you were unable to do the previous week's objectives, please document that here. Ye for next week: In this section put down your objectives for next week Do NOT violate CPT. If you have questions on this, please ask. Do NOT write anything in this document that could be considered a violation of any NDA that you have signed. This document, while not public, should focus on your actions, not the results and should not contain any results or methods which the organization you work with might consider sensitive. In a normal week this should be filed in two places by SUNDAY night at 5pm. a. The slack channel b. An email to the following people: (a) Nick Ross, (b) your faculty mentor and (c) your organizational mentor(s). This file should be named: "Organization Name_Monday of Week" it must be sent as either a PDF or a word DOC , no other formats are accepted. For example, if you worked at IBM and the Monday of the week was October 15 th , it would be: "IBM_10.15.2019.pdf"
• bjectiv • 1. 2. 3. 3.	In this section state what you did in relation to the objectives above. If you were unable to do the previous week's objectives, please document that here. ////////////////////////////////////

Additional Material #8: List of 2019 Outcomes

95% with an offer within 3 months of graduating.

Salaries:

Median base salary: \$120k Median base salary, international students: \$125k Median base salary, women: \$124k

Job Titles:

Most Common Job Title: Data Scientist (63%) Second Common Job Title: Data Analyst (10%) Third Common Job Title: Data Engineer (6%) Fourth Common Job Title: Machine Learning Engineer (4%)

Job titles include:

Applied Scientist Computer Vision Engineer Consultant Data Analyst Data Analytics Engineer Data Engineer Data Science Architect Data Scientist Decision Scientist Deep Learning Engineer Machine Learning Data Scientist Machine Learning Engineer Research Analytics Scientist Software Development Engineer

companies		
Aktana	Manifold Inc	Zimmerman Advertising
Amazon	Metromile	Zume Inc
Amazon Web Services	NakedPoppy	Apple Contractor
Apple	O'Reilly Media	Verizon Media
Beam Solutions	Oracle	
Bird Rides	PicnicHealth	
Booking.com	Pocket Gems	
Checkr, Inc	RHL	
Clari	Ravel Law	
Cone Health	Remedy Partners	
DRIVIN	Scribd	
DataGrand	Sentry (sentry.io)	

Companies

Dictionary.com	Shutterfly
EXL Service	SiriusXM
Earnest	Smiths Digital Forge
Emailage	Stanford University
FLYR	ThirdLove
Fair	Trulia
GoGuardian	Twitch
Happy Money	Scribd
Hoodline	Ultimate Software
Ibotta	Verizon Media
Iherb	Vian.ai
Komodo Health	Vian.ai
Lending club	Visa Inc
LexisNexis Group	Visa Inc
LinkedIn	Walmart Labs
Logistics Management	Wish
Institute (LMI)	
MOBE	Wish
ZS Associates	Ultimate Software

Additional Material #9: Business Communications Final Presentation Rubric

Criteria	Ratings								Pts	
Topic Selection	2.0 pts Full Marks			1.0 pts Minor Fault			0.0 pts No Marks			2.0 pt
Start	2.0 pts Full Marks			1.0 pts Minor F	Fau	lt	0.0 pts No Marks			2.0 pt
Nonverbal Delivery	5.0 pts Full Marks	4.0 pts Single minor fault	0 pts 3.0 p ngle A cou inor fault mino			2.0 pts Multiple minor faults or 1 major fault	1.0 pts0.0MultipleNomajor faultsMar		0.0 pts No Marks	5.0 pt
Verbal Delivery	5.0 pts Full Marks	4.0 pts Single minor fault	3.0 p A co mine	ots ouple of or faults		2.0 pts Multiple minor faults or 1 major fault	1.0 pts s Multiple major faults		0.0 pts No Marks	5.0 pt
Content	3.0 pts Full Marks	2.0 pts Single mi	2.0 pts Single minor fault			1.0 pts Multiple minor faults or 1 major fault			.0 pts Io Marks	3.0 pt
Slides (or presentation artifacts)	3.0 pts Full Marks	2.0 pts Single mi	2.0 pts Single minor faul			pts Itiple minor faults or 1 m	0.0 pts ajor fault No Marks		.0 pts lo Marks	3.0 pt
Time management	2.0 pts Full Marks			1.0 pts Minor Fault			0.0 pts No Marks			2.0 pt

Additional Material #10: Grading Rubric for Final Presentation Product Analytics

	Presentation Skills (out of 20)
Did the	e group demonstrate good "logistical" presentation skills? Out of 20 points.
2	Did they make eye contact? Did they speak loud enough?
3.	Did they use a lot of "umms" and "uhhhs"?
	Presentation Content (out of 20)
Was th	e content within the presentation make sense? Out of 20 points
1.	Were the slides organized?
2.	Were the slides readable?
3. 4	Was the content professional for the purpose?
5.	Were you able to state the biz model in a sucient manner?
	Product Demonstration (out of 20)
Did th	e product Demonstration work?
1.	Did the product work as intended?
2.	when walking through the product demonstration did the audience know what y were doing?
3.	Was the demo done in a smooth manner?
	Product Polish (out of 10)
How d	id the produce look?
1.	Was it useable by the intended audience?
2.	Did it look like a modern web-app?