



# DSO 599 Digital Analytics Strategy

Syllabus link: <https://tinyurl.com/USCdigitalanalytics> [PDF version as of 10/17/2017]

Syllabus – Fall 2017 – Session 415  
Wednesdays, 3:30-6:20 p.m. starting October 18, 2017  
JKP 104

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## Course Description

This course will give you a foundation in digital analytics in tandem with digital strategy and solutions. You will glean concepts and principles of praxis central to current applications of digital analytics and digital strategy across industries. You will acquire the critical and creative skills to articulate the value of digital analytics within a variety of business settings.

This course will introduce you to a multi-method (both quantitative and qualitative) approach to working with digital analytics, and a multimodal understanding of the analytics tools for websites, mobile, and social media. Learning the lexicon of available standardized and custom metrics, you will practice strategic problem-solving while applying digital analytics. Through design thinking, you will gain practical experiences with analytic measurement modeling while mapping project and organizational outcomes to Key Performance Indicator (KPI) metrics.

This overview course is appropriate for students interested in working in digital analytics, digital strategy, product development, marketing, business analytics, user experience, design research, and information architecture.

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# Learning Objectives

	Step	What You Need to Know	Grading Criteria
1	Define a strategically meaningful question about an opportunity or a problem.	<p>An organization's mission and strategy, or what it's trying to do and how it's trying to do it.</p> <p>Financial and business analytics reporting period and reporting order within an organization.</p>	<p>Is the question specific and measurable?</p> <p>Are the target audiences/users well-defined?</p> <p>Is question essential to the org's mission and strategy?</p>
2	Design a strategic solution with an analytic model with data or metrics* that will help answer the question.	<p>How data can be segmented or grouped, forming a cohesive model based on the strategic outcome.</p> <p>How site traffic data is gathered, what metrics exist, what a specific metric does or doesn't indicate.</p> <p>How the analytic model furthers the intended strategic outcome?</p>	<p>Do these metrics and ways of segmenting the data cohere?</p> <p>Are the selected metrics relevant to the question and the org's desired strategic outcome?</p> <p>Do these metrics as a whole address the strategic outcome?</p>
3	Acquire the data from Google Analytics and related sources.	<p>Where to find the metrics you need.</p> <p>What default data is available, how to further customize data gathering methods within existing tools, and how to complement data from other tools.</p>	<p>Were the correct data and segmentation used?</p> <p>Were the reporting periods (e.g., daily, weekly, monthly, quarterly, and annually) relevant to the org's strategy and the question?</p>
4	Clean and prepare the data for analysis.	<p>Basic database design, or how data should be put in a spreadsheet so it can be machine-readable and coded systematically and consistently with categories relevant to the</p>	<p>Are the column and row labels formatted with clearly defined terms?</p> <p>Is the coding methodology consistent and transparent,</p>

		org and the question.	<p>i.e., is it clear why a piece of data got one code and not the other?</p> <p>Is there a data dictionary?</p>
5	Analyze the data using Google Analytics, Excel, or other visualization and analysis programs.	<p>The quantitative calculations and qualitative assessments needed to compare, contrast and put the data into context.</p> <p>The difference between correlation and causation.</p> <p>How to use tables, charts and graphs to analyze trends, identify outliers, compare differences, etc.</p> <p>Knowledge of workflow patterns and external events, e.g., holidays, relevant to an organization that might affect interpretation and analysis.</p>	<p>Have the correct and relevant calculations and formulas been used? Are they transparent and replicable?</p> <p>Have all differences (e.g., the amount and the percentages) and outliers been put into context and interpreted appropriately?</p> <p>Have both the trends over time and the totals been considered?</p> <p>Are any trends or observations (e.g., increases and decreases, or lack thereof) a result of external events rather than an action taken by the organization?</p>
6	Present relevant, data-informed findings and strategic recommendations in compelling formats to inform decision-makers.	<p>How your findings relate to the question and the organizational and strategic mission.</p> <p>What data is missing that affects the strength and validity of your argument; what data is immaterial and thus not included.</p> <p>What tables, charts, graphs, Infographics, dashboards and other formats present the data correctly and effectively.</p> <p>Terms the organization uses.</p>	<p>Is the question clearly stated and linked to the org's mission and strategy?</p> <p>Are there findings drawn from multiple and reliable data points, not just basic calculations?</p> <p>Are the findings worded with the terms the org uses?</p> <p>Are hypotheses tested? Are the data sets able to substantiate or reject the hypotheses?</p>

		grammar, punctuation, spelling.	<p>Are any limitations or problems with the data identified?</p> <p>Are the recommendations based on the findings rather than personal opinion?</p> <p>Are the data in tables, charts, graphs, or dashboards designed properly and cleanly with clear visual logic, and free of confusing sentences, visual tricks, or distracting colors and visual tricks that could affect your credibility as an analyst?</p>
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\* Students will be able to describe and compare the conceptual purpose, technical definitions, limitations and assumptions of various types of behavioral metrics, including:

- Basic content consumption metrics and segments: Visits (or sessions); visits from new vs. returning visitors (or users); visits by geographic region.
- Visitor acquisition metrics: Visits by traffic source (direct, search, referring sites, social media, campaigns); keywords.
- Visitor behavior metrics: Bounce rates; landing pages; pages per visit; events; frequency and recency
- Outcome metrics: Macro- vs. micro-outcomes or conversions. Funnels.
- Social media metrics: breadth/reach metrics including likes; depth metrics such as comments.

## Required and Suggested Materials

The required readings include one book that you will need to purchase and materials I'll post on Blackboard. The readings will come from the books and pamphlets below and from whitepapers, blogs and analytics vendor sites from both media and e-commerce.

### Required Materials

- Purchase on your own: *Web Analytics 2.0*, by Avinash Kaushik, Sybex/Wiley Publishing, 475 pages

- *Occam's Razor* [<http://www.kaushik.net>] by Avinash Kaushik
- Short explanatory videos (linked from this syllabus)

## Suggested Materials

- *Google Analytics: From Zero to Business Impact*, by Feras Alhlou, Shiraz Asif, and Eric Fettman, Wiley, 596 pages
- *Design Thinking Methodology Book*, by Emrah Yayici, ArtBizTech, 116 pages
- *Mapping Experiences: A Complete Guide to Creating Value through Journeys, Blueprints, and Diagrams*, by Jim Kalbach, O'Reilly, 359 pages

## Classroom and Course Policies

### Laptop Policy

Please bring a laptop that has Excel, PowerPoint, and Internet access to each class. The assignments and the final project must be in PDF, Excel and PowerPoint, or their Google App equivalents which are industry standards. Analysts collaborate across departments and organizations and always have to hand off their files. If you use Numbers, Keynote, Prezi or other software, you'll need to convert your files and fix any formatting problems that happen during the conversion process.

### Prerequisites and/or Recommended Preparation

Students must be proficient in Excel and PowerPoint.

### Privacy and Confidentiality Policies

Throughout the semester you will have direct access, when possible, to the Google Analytics accounts for one or more organizations to complete your homework assignments. This is internal, proprietary data. All data, presentations and discussions in class with your fellow students and with the organizations are confidential. You can show prospective employers your assignments and projects only if you strip out all identifying information.

## Grading Policies

### Breakdown of Grade

- Homework assignments 30%
- Mid-term metrics quiz 10%

- In-class participation 20%
- Final project - group 30%
- Final project - individual reflection 10%

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Total 100%

The assignments will assess your ability to formulate questions relevant to an organization, your knowledge of metrics, your proficiency with the software tools, your ability to analyze data and put it into context for decision-makers.

The final will be a group project that consists of a measurement model, a prototype dashboard or reporting template that demonstrates how the Key Performance Indicators (KPI) could look and function, and an analysis of the KPI data that justifies your recommendations on the baselines and targets for each of the KPIs. Recommendations for product, service, or website improvement are highly encouraged.

## Grading Scale

A 95-100  
A- 90-94  
B+ 87-89  
B 83-86  
B- 80-82  
C+ 77-79  
C 73-76  
C- 70-72  
D+ 67-69  
D 63-66  
D- 60-62  
F 59 and below

## Grading Standards

A

The analysis is relevant, uses the correct data and is concise and complete. It identifies any assumptions that were used, data integrity issues, and issues that need to be further addressed (if any) before a manager can make a decision.

The analysis is targeted to a managerial audience, is clearly written and is free of spelling and grammatical errors. It includes relevant charts and graphs with explanatory text. There are no 3D or other types of graphs in formats that obscure the trends or data points. It uses the correct colors, data labels and font size, and has a plain white or otherwise unobtrusive background. The analyses are in a hard copy format suitable for discussion at a meeting.

B

The analysis is relevant, uses the correct data and is complete. It identifies assumptions that were used, data integrity issues, and issues that need to be further addressed (if any) before a manager can make a decision. The report and presentation have most, but not all, of the attributes of an “A” assignment.

C

The analysis is relevant and uses the correct data, but isn’t complete; it’s a recitation of facts rather than an analysis. It can be used for decision-making if a manager could deduce some of the issues on his/her own. The report and presentation have some of the attributes of an “A” assignment.

D

The analysis is relevant, but doesn’t use the correct data and isn’t complete. It needs further work before it can be used for decision-making. The report and presentation have only a few of the attributes of an “A” assignment.

F

The analysis isn’t relevant, doesn’t use the correct data and isn’t complete. The report and presentation doesn’t have any of the attributes of an “A” assignment.

## Assignment Submission Policy

Assignment files are due in Blackboard by 10AM on the same day as the class meeting. You can also email them to me and the grader if you have trouble posting them on Blackboard. All grades will be posted on Blackboard. You are also responsible for informing me within one week if you believe there's an error in an assignment grade that's been posted on Blackboard. You should check Blackboard regularly for announcements and new materials. In the event of an emergency, the ability to access Blackboard will be crucial. USC's Blackboard learning management system and support information is available at <https://blackboard.usc.edu>

## Late and/or incomplete assignments

Due to the short duration of the semester, late assignments will not be accepted. Partial credit will be given for incomplete assignments.

# Course Schedule

Week 1: 10/18/2017

## Introducing Digital Analytics Strategy

What is digital analytics strategy?

Design Workshop #1: Scenario-based strategy

[Assignment #1](#): Planet Money business scenario analysis

Mapping scenario and visualizing digital strategy

Readings and Media:

- "Chapter 1: The bold new world of web analytics 2.0" from Web Analytics 2.0
- "Chapter 3: The awesome world of clickstream analysis: metrics" from Web Analytics 2.0
- Video: view all the [ideo Mindset videos](#) on human-centered design
- Video: Google Analytics Platform Principles - [Lesson 1.3 - The data model](#)
- Video: Google Analytics Platform Principles - [Lesson 2.2 - Website data collection](#)
- Video: Google Analytics Academy - [Lesson 3.2 - Key metrics and dimensions defined](#)

Week 2: 10/25/2017

## Visions, Outcomes, and Measurement

Meanings of numbers: data, value, and context

- Metrics vs. dimension; counts vs. trends
- Media impact analysis

Guest Speaker: Marcus Benigno, American Civil Liberty Union

[Google Analytics Demo](#): Behavior

Design Workshop #2: Reverse engineering a vision of success

Assignment #2: Draft measurement model

Read and Watch:

- Video: Google Analytics Academy - Lesson 2.2 - Core analytics techniques
- Video: Google Analytics Academy - Lesson 5.5 - Behavior reports



- Video: Google Analytics Academy - Lesson 5.1 - Reporting overview
- "Segmenting Google Analytics by session frequency," by Jonathan Weber, LunaMetrics
- "How count of sessions is calculated," from the Google Analytics help desk

## Week 3: 11/1/2017

### People, Users, Communities

How do we think about people, communities: research techniques and ethics

Guest Speaker: Nik Honeysett, Balboa Park Collaborative

Google Analytics Demo: Audience

Final Project Introductions: Meet the Clients - LACMA

Design Workshop #3: Concretizing the challenges - How Might We (HMW) questions

Assignment #3:

- Mapping users and communities
- Project Charter

Read and Watch:

- Danah Boyd on Big Data Ethics, "[Example 'Big Data' Controversies](#)"
- Video: Google Analytics Academy - Lesson 5.3 - Acquisition metrics
- "Excellent analytics tip #18: make love to your direct traffic," by Avinash Kaushik

## Week 4: 11/8/2017

### Semantics and Interests

Expression of human interests: What is a click? What do people click on? How?

Guest Speaker: Kara Kinley, Kaiser Permanente

Google Analytics Demo: Visitor acquisition, events

Design Workshop #4: Mapping journey and acquisition

Assignment #4: Visualizing user journey, events, and interests

Read and Watch:

- "Beginner's guide to web data analysis: ten steps to love & success (Step #2: How good is the acquisition strategy?)," by Avinash Kaushik
- "[Tags don't cut it](#)" and "Topics, themes, subjects," by Stijn Debrouwere
- Video: Keyword Not Provided in Google Analytics - Part 1: Queries Report, by KISSmetrics

Week 5: 11/15/2017

Conversion and Destination

Guest Speaker: Hunter Owens, City of Los Angeles

Google Analytics Demo: Conversion

Mid-Term Metrics Quiz

Final Project Workshop

- Analyzing the data
- Setting KPI, baselines, and targets

Read and Watch:

- Video: Google Analytics Academy - Lesson 4.4 - Setting up goals and ecommerce
- "The Google Analytics conversion funnel survival guide," by KISSmetrics
- "What funnel shapes can tell you," from Advanced Web Metrics with Google Analytics by Brian Clifton
- Video: Keyword Not Provided in Google Analytics - Part 2: Landing Page Report & Geo Summary Report, by KISSmetrics

Week 6: 11/22/2017

Thanksgiving Holiday - No Class

Week 7: 11/29/2017

Beyond the Numbers: Qualitative Research Methods

Why do people click? Thinking between categories

Guest Speaker: Ben Wiedmaier, dScout

#### Final Project Workshop

- Custom reporting
- Dashboard creation - wireframing and prototyping
- Visualizing strategy

Week 8: 12/11/2017 (Monday, 2-4pm)

Final Project Presentations

## Related Information

### Add/Drop Process

This course follows the add/drop deadlines for a seven-week course. Students who want to add the course after the first week will need special approval from the instructor. Students who miss the first class will be asked to drop the course.

### Academic Integrity and Conduct

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own (plagiarism). Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. All students are expected to understand and abide by the principles discussed in the SCampus, the Student Guidebook ([www.usc.edu/scampus](http://www.usc.edu/scampus) or <http://scampus.usc.edu>). A discussion of plagiarism appears in the University Student Conduct Code (section 11.00 and Appendix A).

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>. Failure to adhere to the academic conduct standards set forth by these guidelines and our programs will not be tolerated by the USC Marshall community and can lead to dismissal.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity <http://equity.usc.edu/> or to the Department of Public Safety <http://capsnet.usc.edu/departments/departments-public-safety/online-forms/contact-us>. This

is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report or can initiate the report on behalf of another person. The Center for Women and Men <http://engemannshc.usc.edu/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <https://sarc.usc.edu/reporting-options/> describes reporting options and other resources.

## Support Systems

Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs ([www.usc.edu/disability](http://www.usc.edu/disability)) provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information (<http://emergency.usc.edu/>) will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.