International Program in Survey and Data Science

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JPSM – Uni Mannheim – IAB

3MC Chicago 7/16

Where we come from

Photo: Matt H. Wade

December 1, 1990

It Began with an Idea

The idea for the Joint Program emerged from a 1990 initiative of the Federal Statistical agency heads, the then current head of the OMB Statistical Policy Office, and then chair of the Council of Economic Advisors. The mismatch between the disciplinary organizations of most universitites and the technical staffing needs of the system required a new academic organization. The legislative initiative called for a graduate education and research center offering courses in the DC area.

1992 Noncredit short courses

1993 Master program offered in DC

1998 Undergraduate program

1999 Certificate and Citation programs

2000 PhD program

2003 Program in Economic Measurement

2015 International Program in Survey and Data Science

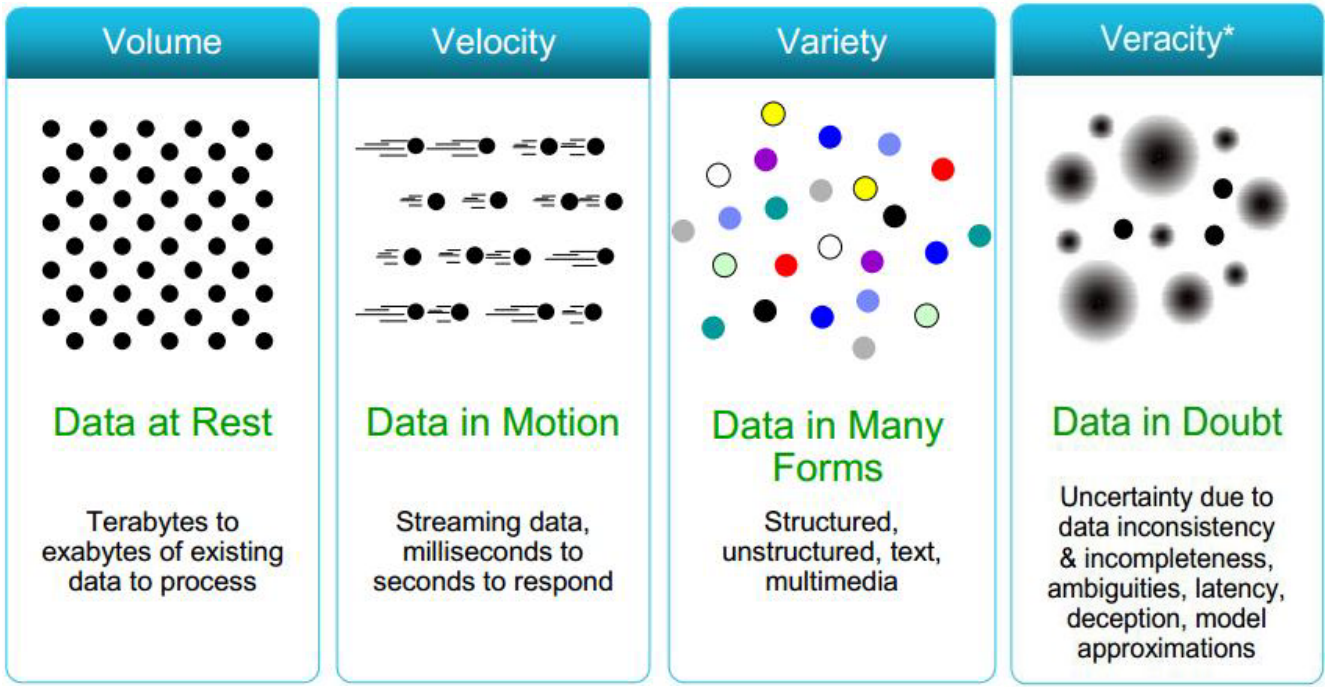
Data quality continues to be an issue

New/different types of data generated as by-product (e.g., smartphones, social media, satellites)

Fundamental changes in collection, availability, integration and dissemination of data

Paradigm shift for those who in the past relied primarily on survey research

Lack of people with skills to collect data, build modern surveys and handle data veracity



http://www.rosebt.com/blog/data-veracity

New program characteristics – In brief

- Multidisciplinary and modularized curriculum
- Relevant methods and tools
- Faculty from world-leading institutions

- Flexible web-based learning environment
- Live (video) interaction with faculty and students
- Face-to-face networking meetings

Project coordinators and funding

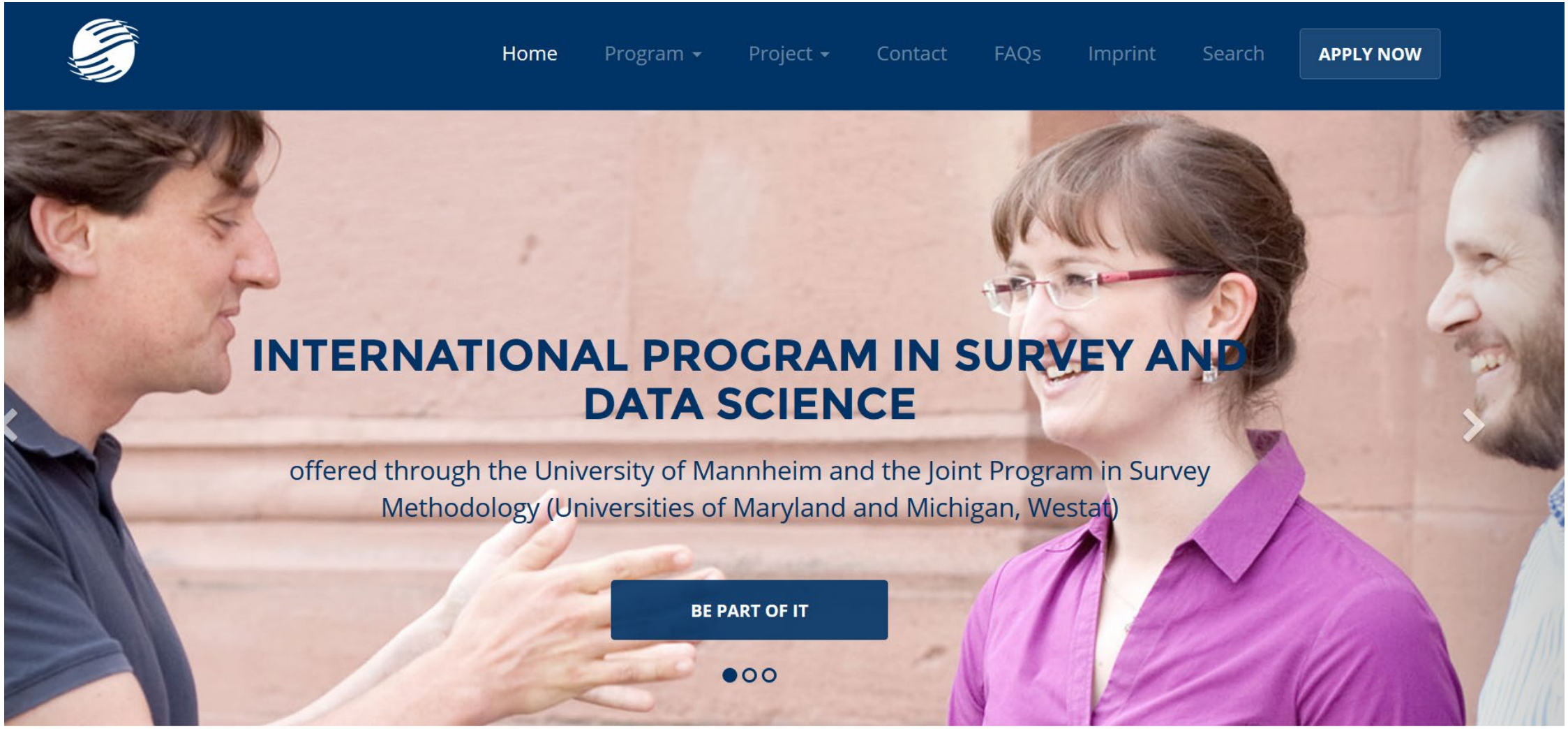
JPSM
THE JOINT PROGRAM IN SURVEY METHODOLOGY

IN OMNIBUS VERITAS
UNIVERSITÄT MANNHEIM

SPONSORED BY THE
Federal Ministry of Education and Research

AUFSTIEG DURCH BILDUNG
OFFENE HOCHSCHULEN

survey-data-science.net



We are pleased to announce the launch of the International Program in Survey and Data Science (IPSDS). Fundamental changes in the nature of data, their availability, the way in which they are collected, integrated, and disseminated are a big challenge for all those working with designed data from surveys as well as organic data. IPSDS was developed in response to the increasing demand from researchers and practitioners for the appropriate methods and right tools to face these changes. We offer a multidisciplinary curriculum, world-class faculty, and a web-based learning environment that allows you to take courses from anywhere in the world.

Cooperation

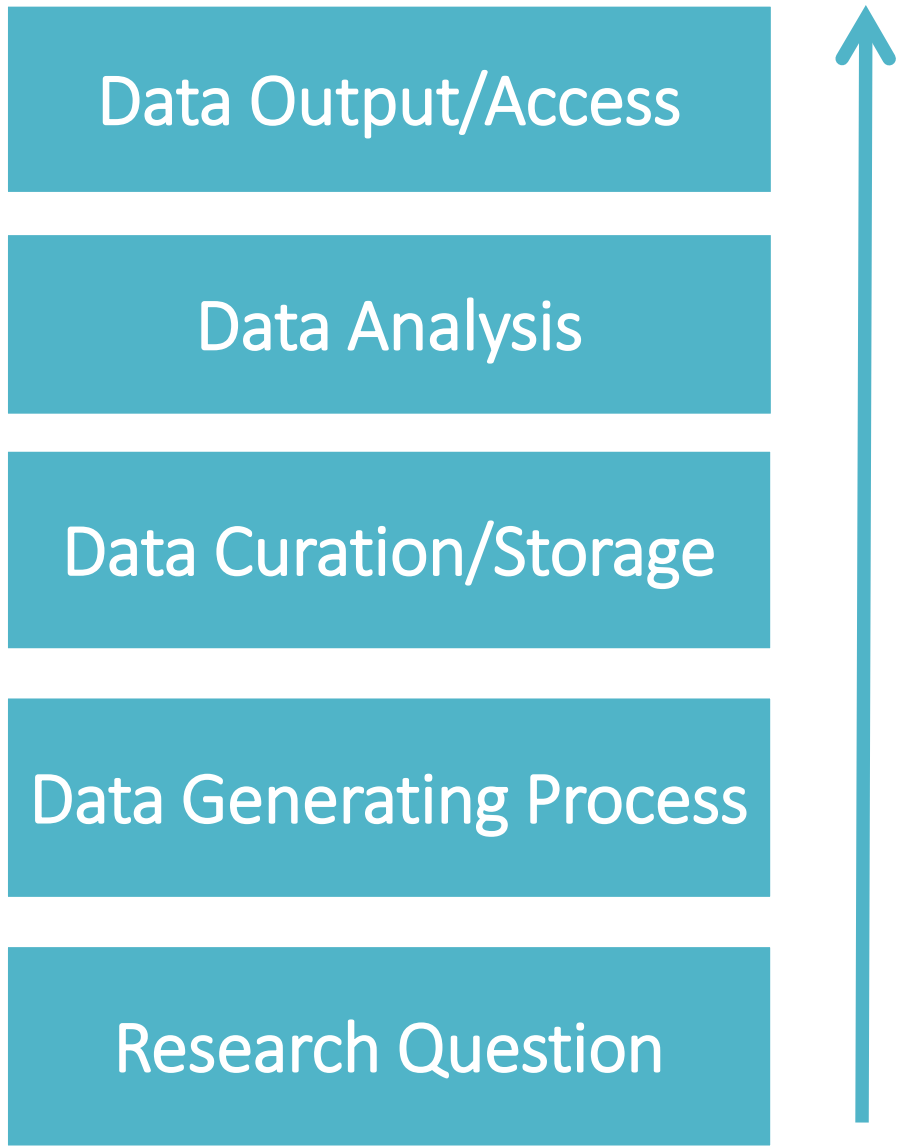
University Partners

- University of Maryland
- University of Michigan
- Catholic University of Santiago de Chile
- Stockholm University (expressed interest)
- Beijing University (expressed interest)
- Australian National Unversity (expressed interest)
- Ashoka University (expressed interest)
- U. of Capetown (planned)

Other Partners

- SRO - Michigan
- PEW
- German Record Linkage Center
- GESIS
- Bureau of Labour Statistics
- U.S. Census Bureau

Modules



Learn how to communicate results and distribute and store your data

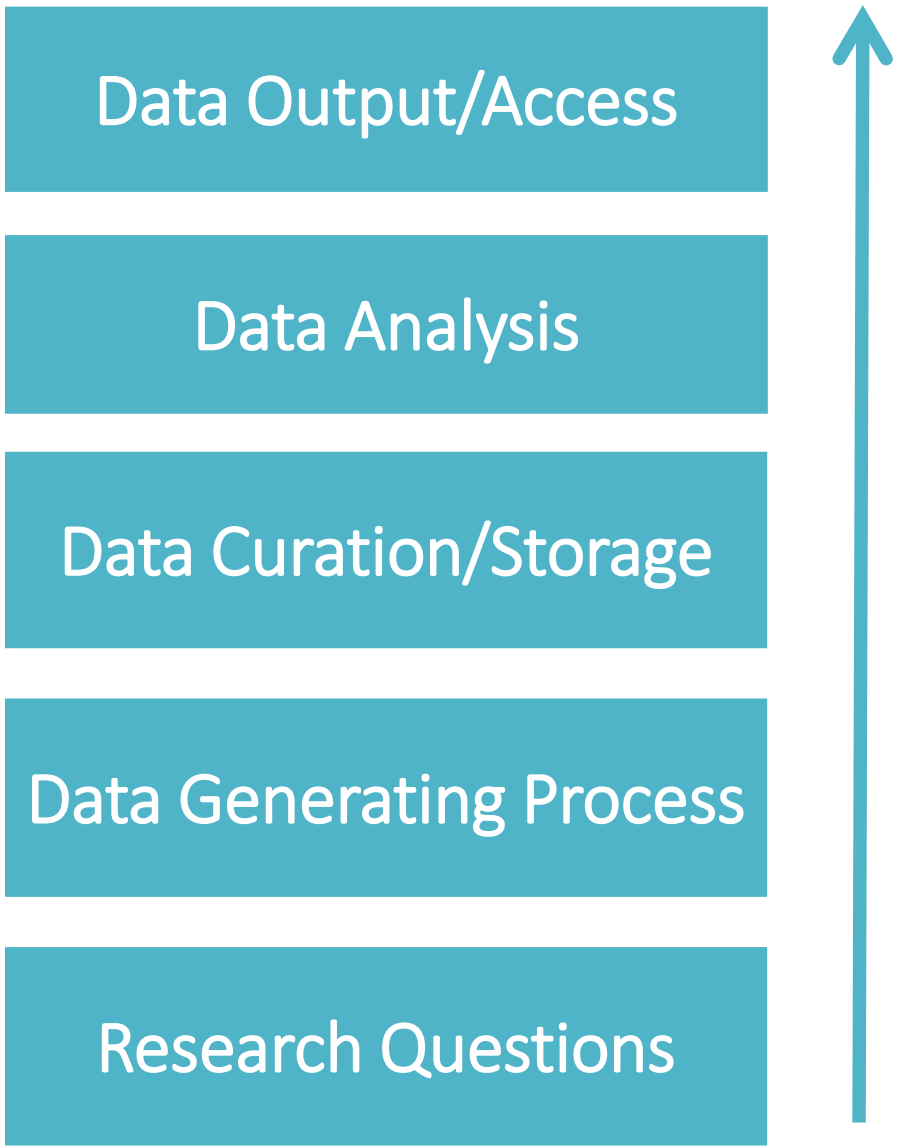
Learn a variety of analysis methods suited for different data types

Learn how to curate and manage data

Understand how to collect data yourself, and how data are generated through administrative and processes.

Learn how to formulate your research goal and which data are best suited to achieve this goal.

Content key words



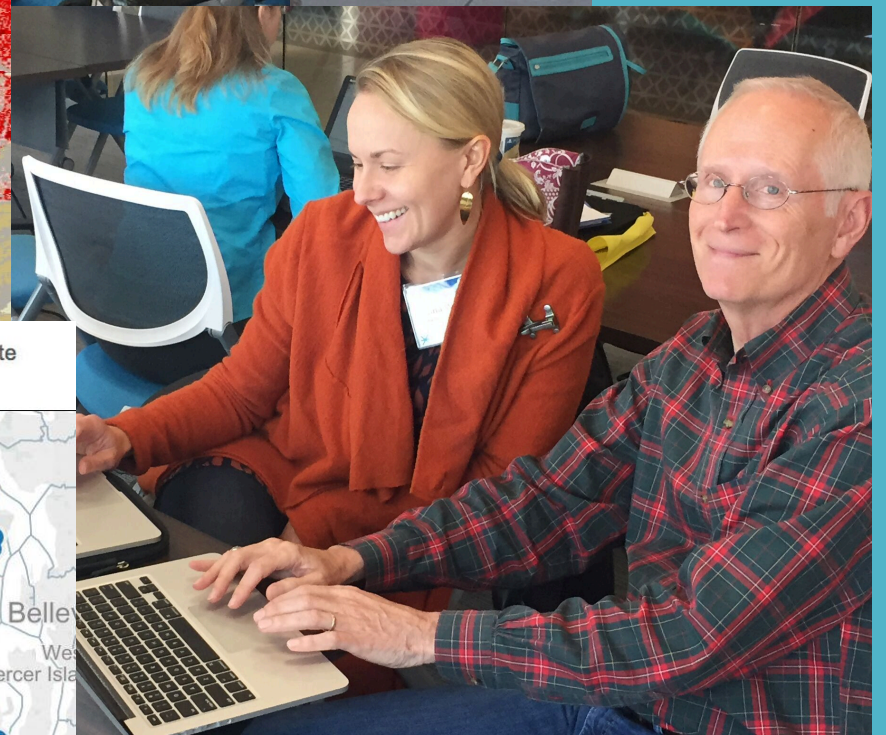
Visualization, disclosure control, ethics, privacy

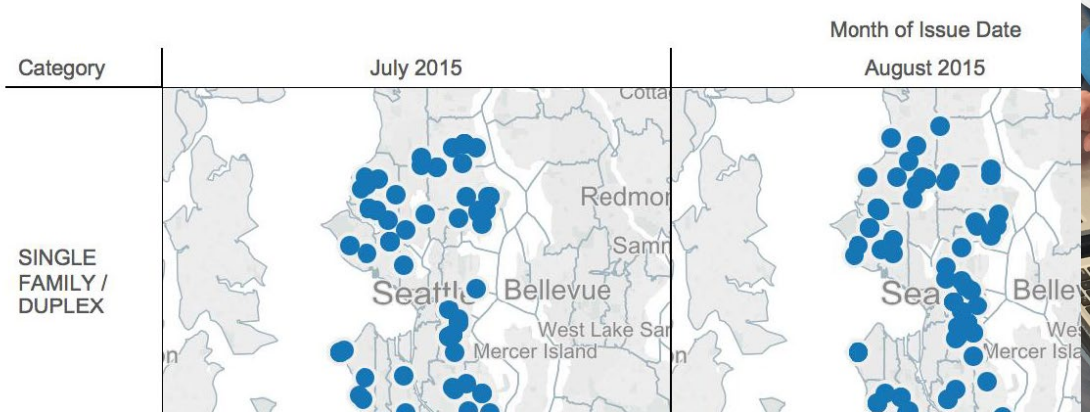
Statistical methods, machine learning,
Bayesian, hierarchical, small area estimation

Practical training in data base management, SQL,
editing, coding, imputation, etc.

Designed (survey and admin) and organic data
(transaction and aspirational), linkage, matching

Economics, public policy, criminology,
journalism, public health, sociology, etc.





Big Data for Federal Agencies

- Fall course: 25 students
- curriculum = book outline

Outlook

- one-stop enrollment
- engagement of PI/PR

Demand for our students

Demand for our courses (Coursera)

Overview | **Reach** | Engagement | Content | Polls | Classic Tools | Exports

16,521
total learners joined

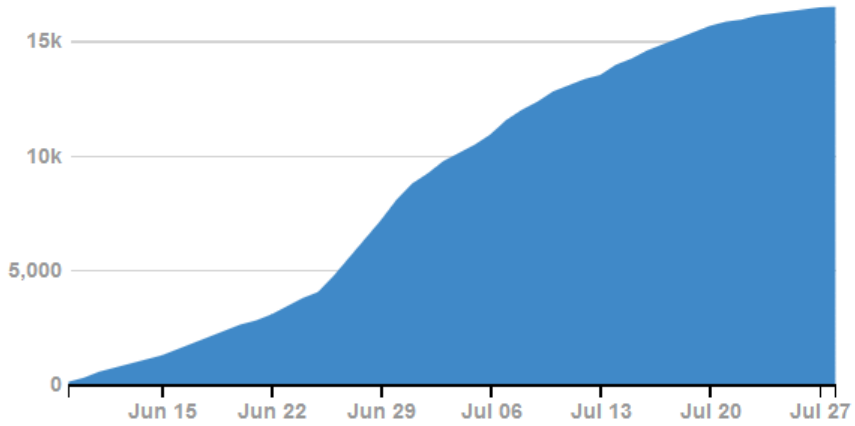
183
different countries

7,103 (43%)
from emerging economies

0
on Signature Track

Enrollment

Cumulative enrollment over time



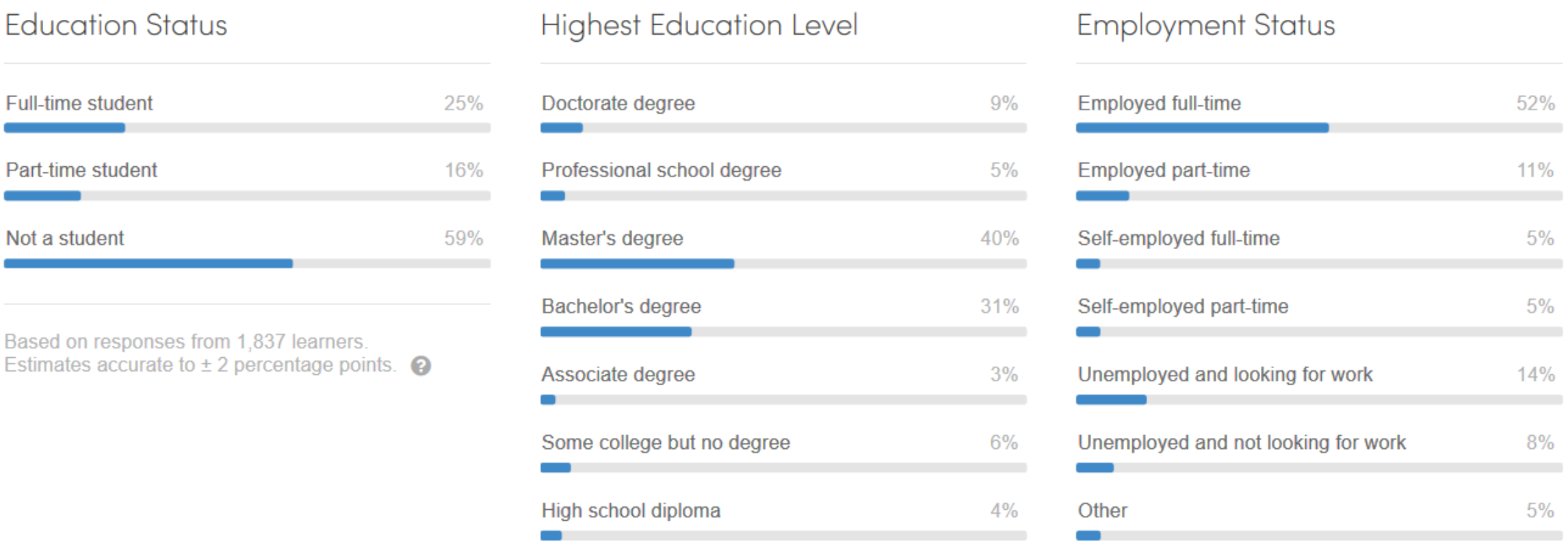
Intent

Learn more about how intent is measured »

Committed to Audit	4,634
Uncommitted	7,050

Values extrapolated based on responses from 10,491 learners. Learn more

Questionnaire Design (Coursera)

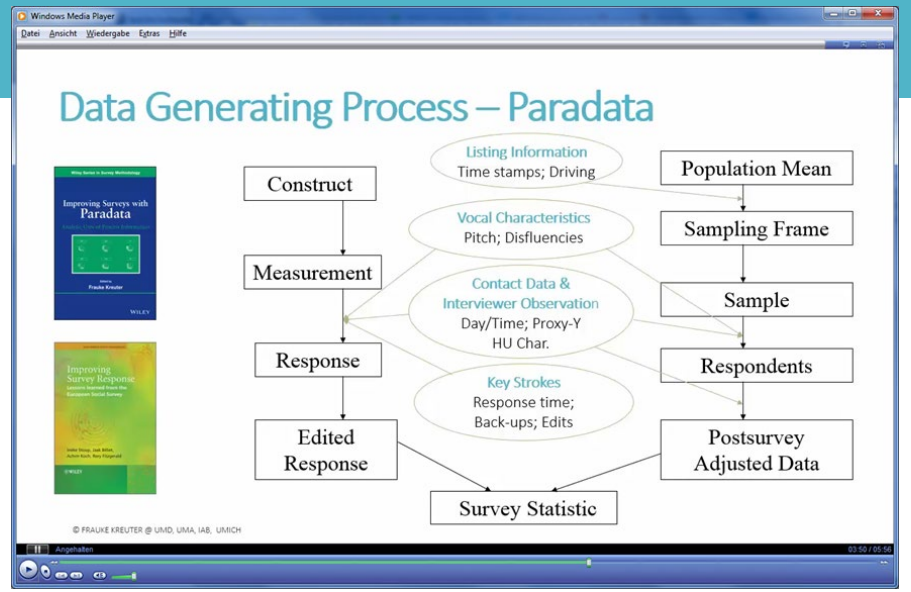


Format

Each week set of videos (pre-recorded)

Lectures are broken into easily digestible sessions to help students to better focus on the material

Engage with the material at their own pace



NAVIGATION

- Home
  - Current course
    - SURV751
      - Participants

ADMINISTRATION

- Course administration
  - Turn editing on
  - Edit settings
  - Users
  - Filters
  - Reports
  - Grades
  - Backup
  - Question bank
- Switch role to...
- My profile settings

HOME / MY COURSES / SPRING 2016 / SURV751

Introduction

To join the weekly online meeting, go to www.bluejeans.com and enter the meeting ID (611682210) under the join meeting tab.
NOTE: Blue Jeans is not currently compatible with Google Chrome. Users should use Safari, Internet Explorer, or Firefox as your browser when using Blue Jeans.

- News forum
- Discussion Forum
- Course Notes
- Data sets included in the course Notes
- Introduction and Syllabus
- Intro to R for SPSS Users

This file contains notes from a previous shortcourse introducing R to SPSS users. All of the homework assignments in this course will require R so if you aren't familiar with R here is some supplementary materials for you to use to help familiarize yourself with this software (which is free!) including downloading R and using a powerful package called Rcommander to read in and manage data files within the R environment.

Week 1

Bluejeans Join Meeting [Tuesday, 02/02/2016, 06:00 p.m.-07:00 p.m.]

- Readings Week 1
  - Kreuter-Peng 01 26 14_manuscript.pdf
  - Public Opin Q-2015-Japec-839-80.pdf
  - Public Opin Q-2016-Schober-poq_nfv048.pdf
- 0. Introduction Big Data_1

January 29, 2016 Mediasite Presenter

LATEST NEWS

Add a new topic...

Next week's Class (Feb 23)
10:36 PM,Feb 15 Trent Buskirk

Older topics ...

UPCOMING EVENTS

Quiz 4 (Quiz opens)
Tomorrow, 2:46 AM

Quiz 3 (Quiz closes)
Wednesday, February 24, 11:05 AM

HW 3 Assignment
Sunday, February 28, 10:00 PM

Quiz 4 (Quiz closes)
Monday, February 29, 2:46 AM

Go to calendar...
New event...

RECENT ACTIVITY

Activity since Saturday, February 20, 2016, 10:51 AM
Full report of recent activity...

COURSE UPDATES:

Added File
HW 2 Solutions

ASSIGNMENTS SUBMITTED:

9:04 PM,Feb 20

8:58 PM,Feb 21

Man Kaiwen

HW 2 Assignment

3. K-Means Clustering

January 12, 2016 *Mediasite Presenter*

Homework Assignment 1

data file for homework nu

Tasks for Homework Num

Quiz 2

HW Number 1 Solutions

This is a .R file that can be opened using
using Notepad or other text editor (or Wo
tasks of HW 1.

Week 3

Bluejeans Join Meeting **[Tuesday, 02/16/**

4. K-Nearest Neighbors

January 12, 2016 *Mediasite Presenter*

5. CARTS

January 12, 2016 *Mediasite Presenter*

HW 2 Assignment

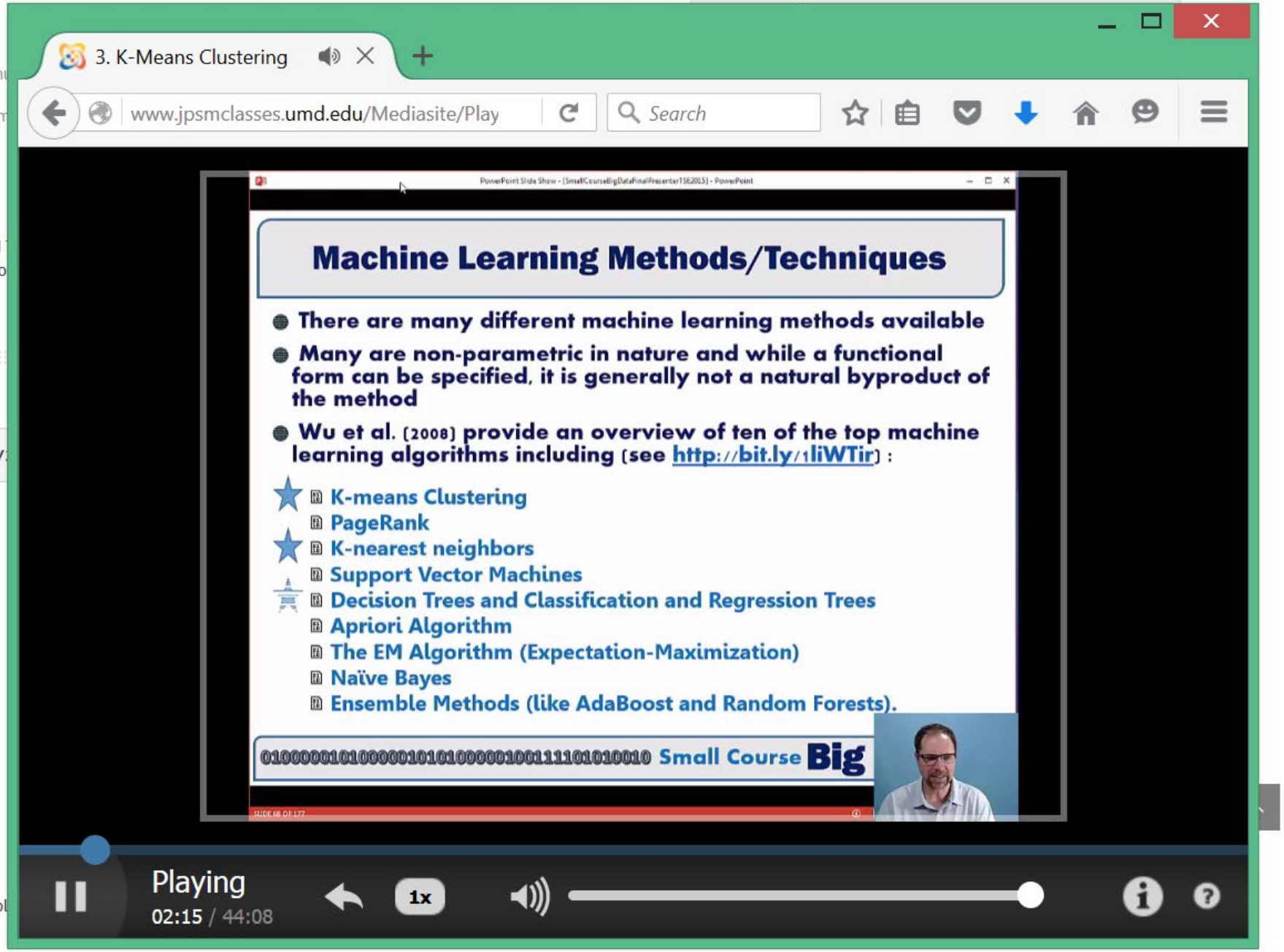
Tasks for HW Number 2

Datasets for HW 2

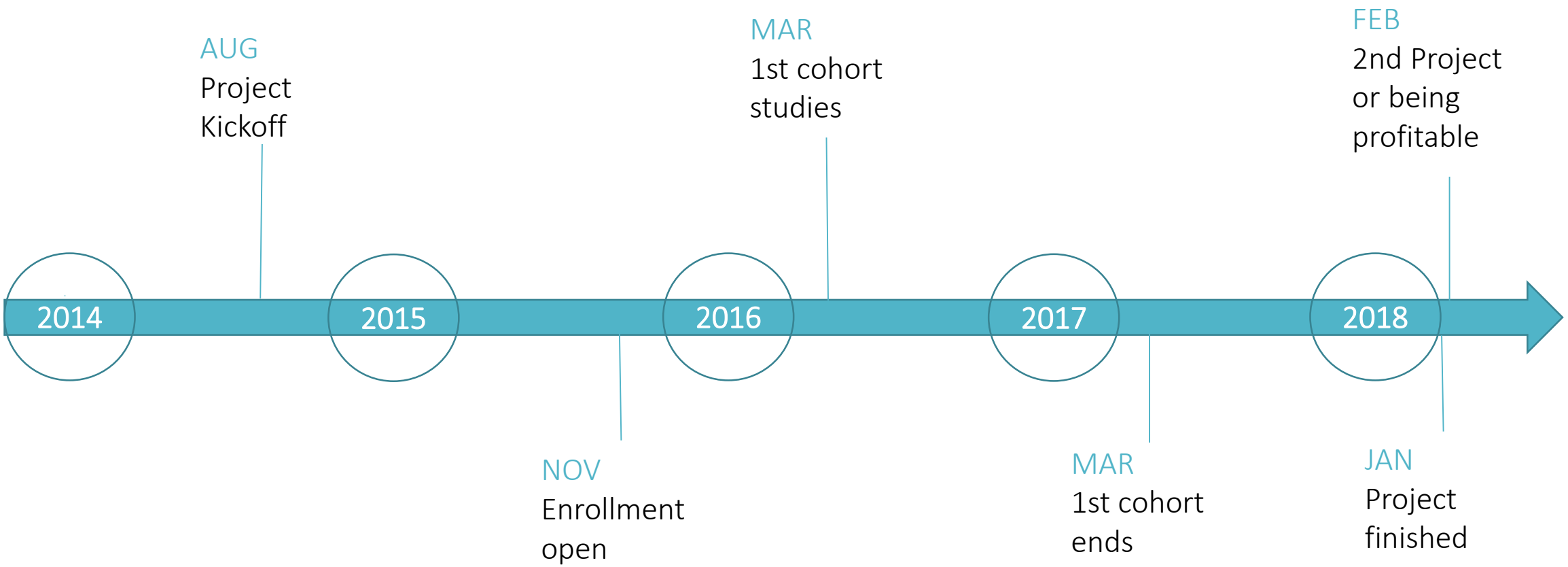
Quiz 3

HW 2 Solutions

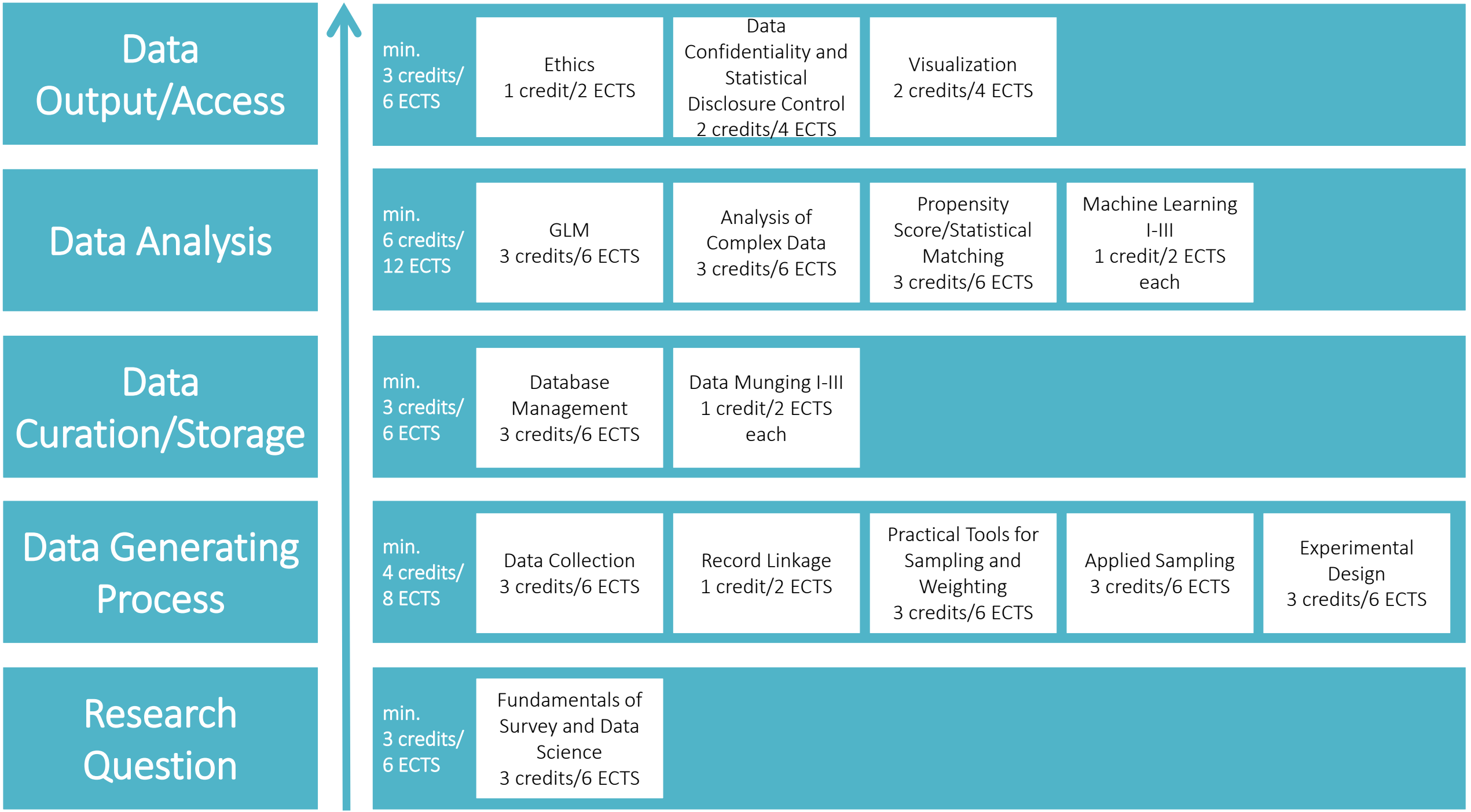
Here is the R script file containing the sol



Timeline – Test Phase at Mannheim

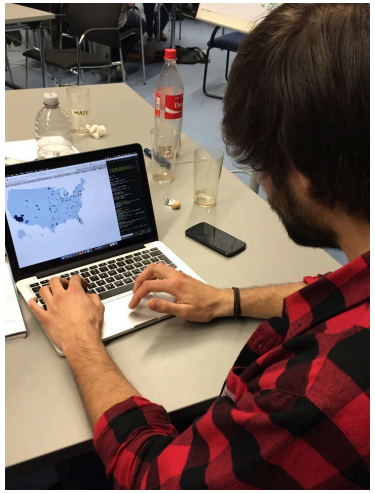


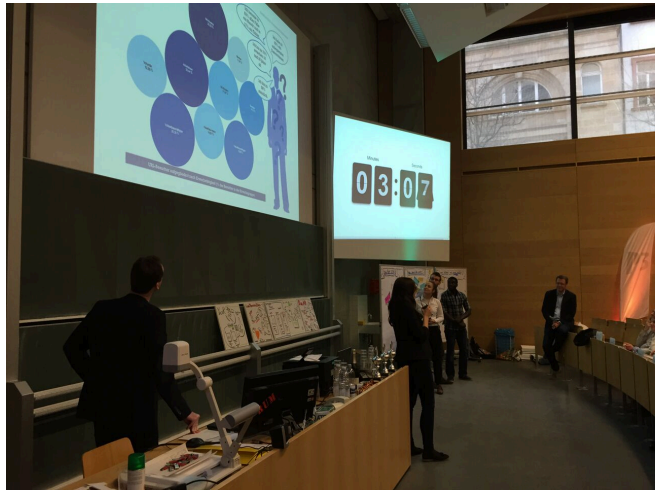
Kick-off 2/20/2016


Data Output/Access
min. 3 credits/ 6 ECTS
Ethics 1 credit/2 ECTS
Data Confidentiality and Statistical Disclosure Control 2 credits/4 ECTS
Visualization 2 credits/4 ECTS
Data Analysis
min. 6 credits/ 12 ECTS
GLM 3 credits/6 ECTS
Analysis of Complex Data 3 credits/6 ECTS
Propensity Score/Statistical Matching 3 credits/6 ECTS
Machine Learning I-III 1 credit/2 ECTS each
Data Curation/Storage
min. 3 credits/ 6 ECTS
Database Management 3 credits/6 ECTS
Data Munging I-III 1 credit/2 ECTS each
Data Generating Process
min. 4 credits/ 8 ECTS
Data Collection 3 credits/6 ECTS
Record Linkage 1 credit/2 ECTS
Practical Tools for Sampling and Weighting 3 credits/6 ECTS
Applied Sampling 3 credits/6 ECTS
Experimental Design 3 credits/6 ECTS
Research Question
min. 3 credits/ 6 ECTS
Fundamentals of Survey and Data Science 3 credits/6 ECTS

… our students are ready for it

DataFest





http://jointprogram.umd.edu/
http://survey-data-science.net/

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