International Program in Survey and Data Science: An environment for training and cooperation

by Karin Frößinger, IPSDS Program Manager/Project Coordinator
INTERNATIONAL PROGRAM IN SURVEY AND DATA SCIENCE

offered through the University of Mannheim and the Joint Program in Survey Methodology

(Universities of Maryland and Michigan, Westat)

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.
Frauke Kreuter

- Director and founder of International Program in Survey and Data Science, University of Mannheim, Germany
- Director of the Joint Program in Survey Methodology at the University of Maryland, USA
- Head of Statistical Methods Research Department, Institute for Employment Research, Germany
- Co-founder of the Coleridge Initiative
- Currently Visiting Scholar at the Simons Institute of the University of California, Berkeley, working on Data Privacy
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Faculty from Partner Universities

- University of Mannheim
- University of Maryland
- Manchester 1824, The University of Manchester
- Utrecht University
- LMU, Ludwig-Maximilians-Universität München
- Australian National University
- University of Michigan
- Pontificia Universidad Católica de Chile
- IPSDS, International Program in Survey & Data Science
IPSDS Participants
IPSDS (Test) Cohorts 1-3

- 47 Participants (27 f + 20 m)
- 100% working professionals
- Diverse educational/professional backgrounds
- 19 countries of residence
- Age: median=31
Curriculum
**Learning objectives / Modules**

- **Data Output/Access**
  - Learn how to communicate results and distribute and store your data

- **Data Analysis**
  - Learn a variety of analysis methods suited for different data types

- **Data Curation/Storage**
  - Learn how to curate and manage data

- **Data Generating Process**
  - Understand how to collect data yourself, and how data are generated through administrative and other processes.

- **Research Question**
  - Learn how to formulate your research goal and which data are best suited to achieve it.

Source: Usher in Japec et al 2015
Problems we tried to solve – in brief

Key elements:

- Multidisciplinary curriculum
- Modularized – adapt to prior skills and work needs
- Wide variety of options: from individual courses (4 to 12 weeks) or course sequences to a modular program
- Mix of faculty from academia and industry
Program Structure
Problems we tried to solve – in brief

Key elements:

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

Asynchronous

• Pre-recorded lectures
• Required readings and assignments
• Discussion forums

Synchronous

• Small virtual classrooms
• Weekly discussions led by the instructor
Advantages of Flipped Teaching

- more opportunities for interactivity in (online) discussions
- more personalized guidance
- more time for feedback
- deeper learning

Source: Derek Bruff at https://goo.gl/Nrt1xA
• Lectures, interviews and discussions with experts, demonstrations of specific techniques and software tools

• Lectures are broken into easily-digestible sessions

• Students engage with the material at their own pace: e.g., replay parts that cover difficult concepts
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Canvas

Course description/General Information
Topics covered, syllabus, additional resources

New units auto-display each week. Each unit includes:

- Readings (Note reference to book chapter, URLs, PDFs)
- Slides
- Lecture videos
- (Link to external resources)
- (Additional material)
- Zoom link for online meeting + date and time
- Discussion forum for submitting questions/student-instructor interaction
- Homework
  - Quiz (autograded)
  - Assignment submission
  - Solutions
Virtual Classrooms

- Weekly mandatory online meetings (50 minutes)
- Discuss students’ questions
- Review problems with assignments
- Collaborative problem solving
- Motivate students to persist in the course
- Break out rooms, (private and public) chats, polls ...
Onsite (Connect@IPSDS)
May 31st-June 1st, 2019

- Day1: create a community within IPSDS students
- Day2: open to audience interested in data science

Renowned speakers

- Roberto Rigobon (Professor at the MIT Sloan School of Management)
- Mine Cetinkaya-Rundel (Associate Professor at Duke University, Professional Educator at RStudio)
- Hilary Parker (Data Scientist at Stitch Fix)
Lessons Learning

• Modular approach much appreciated by working professionals

• Feasibility of combining studies with work and family

• Biggest challenge: workload management

• Balancing flexibility and consistency

• Workplace orientation
Future Scenarios

• Future Skill University
• Networked University
• My University
• Lifelong Learning University

Sources:
YOUR Questions
Thank you for your attention!

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survey-data-science.net