How We Teach Statistics

...or how we SHOULD teach statistics

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Department of Mathematical Sciences
DePaul University

February 7, 2019

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American Statistical Association's (ASA) *Guidelines for Assessment and Instruction in Statistics Education*

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6. Use assessments to improve and evaluate student learning

Report has suggestions for how to make these changes, including examples in the appendices

`https://www.amstat.org/asa/files/pdfs/GAISE/2005GaiseCollege_Full.pdf`

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Topics that Might be Omitted from the **Modern** Statistics Classroom

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- Drills with z-, t-, χ^2, and F-tables
  - p-values should be interpreted by students, not computed
- Advanced training on a statistical software program
  - Programs like R and SAS are recommended to be introduced to students in subsequent statistics courses

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- Ability to communicate

`https://www.amstat.org/asa/files/pdfs/EDU-guidelines2014-11-15.pdf`

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Data Science & The Future of Statistics

Park City Math Institute (PCMI) Undergraduate Faculty Group's Curriculum Guidelines for Undergraduate Programs in Data Science

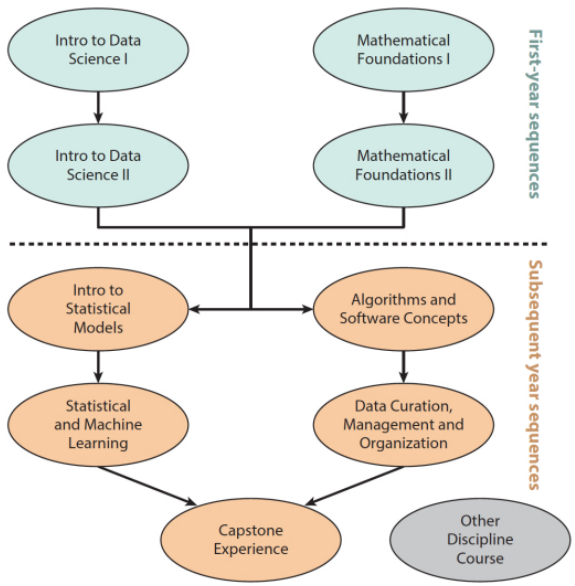

Figure 1

A Flow Chart Displaying a possible path through the major

Bare Minimum of Courses

- Calculus I and II, Linear Algebra
- Intro to Computer Science, Data Structures/Algorithms, Databases
- Intro to Statistics, Statistical Modeling/Regression, Machine Learning/Data Mining
- Capstone Course with Data Experience and Projects

`arXiv:1801.06814v1 [stat.OT] 21 Jan 2018`
`https://arxiv.org/pdf/1801.06814.pdf`