Advanced Engineering Statistics

Jay Liu

Dept. Chemical Engineering

PKNU

Advanced Engineering Statistics

- Location & hours

  Thur. 12:30 ~ 15:20, Eng. Building #4 Room 210A (4-210A)

- Objective

  Basic statistics(review), advanced statistics and stat S/W(minitab)

- Topics covered

  . Basic stat review
  . Statistical Process Control
  . Least squares
  . Design of experiments
  . Multivariate statistics (tentative)

Advanced Engineering Statistics

- References
  1. Engineering Statistics by D.C. Montgomery, G.C. Runger, and N.F. Hubele, Wiley
  2. Applied Statistics and Probability for Engineers by D.C. Montgomery and G.C. Runger, Wiley.
  3. Statistics for Experimenters by G.E.P. Box, W.G. Hunter, and J.S. Hunter, Wiley.
  4. Applied Regression Analysis by N.R. Draper and H. Smith,Wiley.

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- Style

  Theory + examples/illustration using S/W

- Grading

  Final : 50%

  H/W : 50%

[FYI] Statistical packages

- General
  - MINITAB by Minitab, inc.
  - S-PLUS by TIBCO softwares
  - Many more
- Comprehensive
  - SPSS by
  - SAS by SAS institute
  - Many more

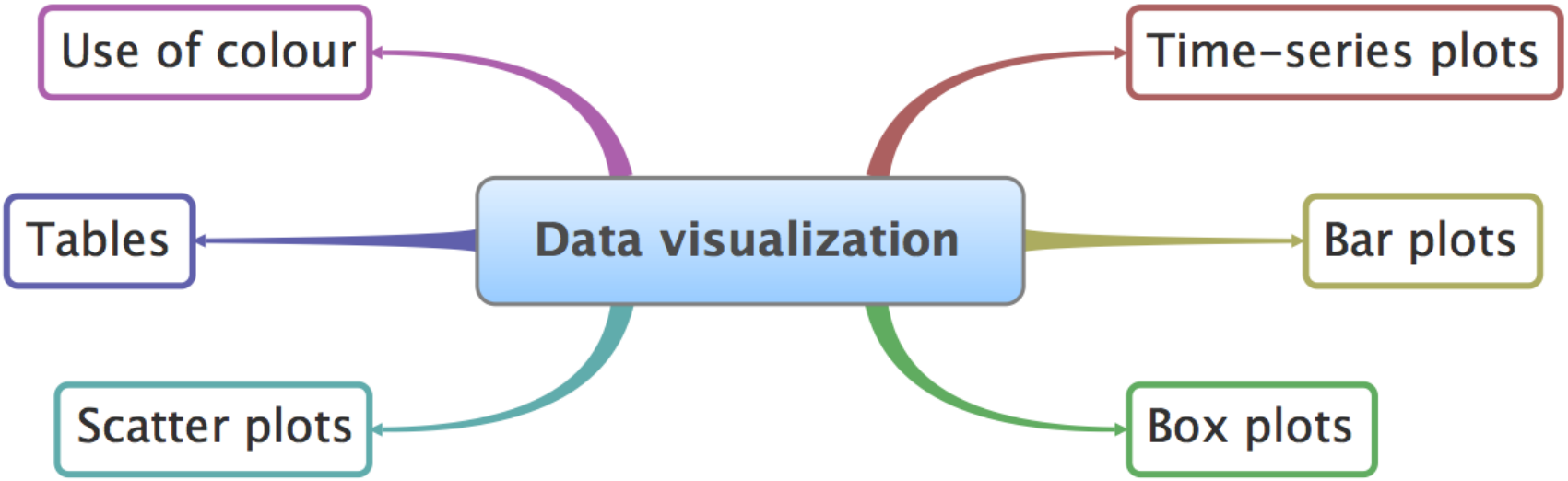
※ XLSTAT add-on in Microsoft Excel

Be aware of pitfalls of using Excel in statistical data analysis!

(http://www.practicalstats.com/xlsstats/excelstats.html)

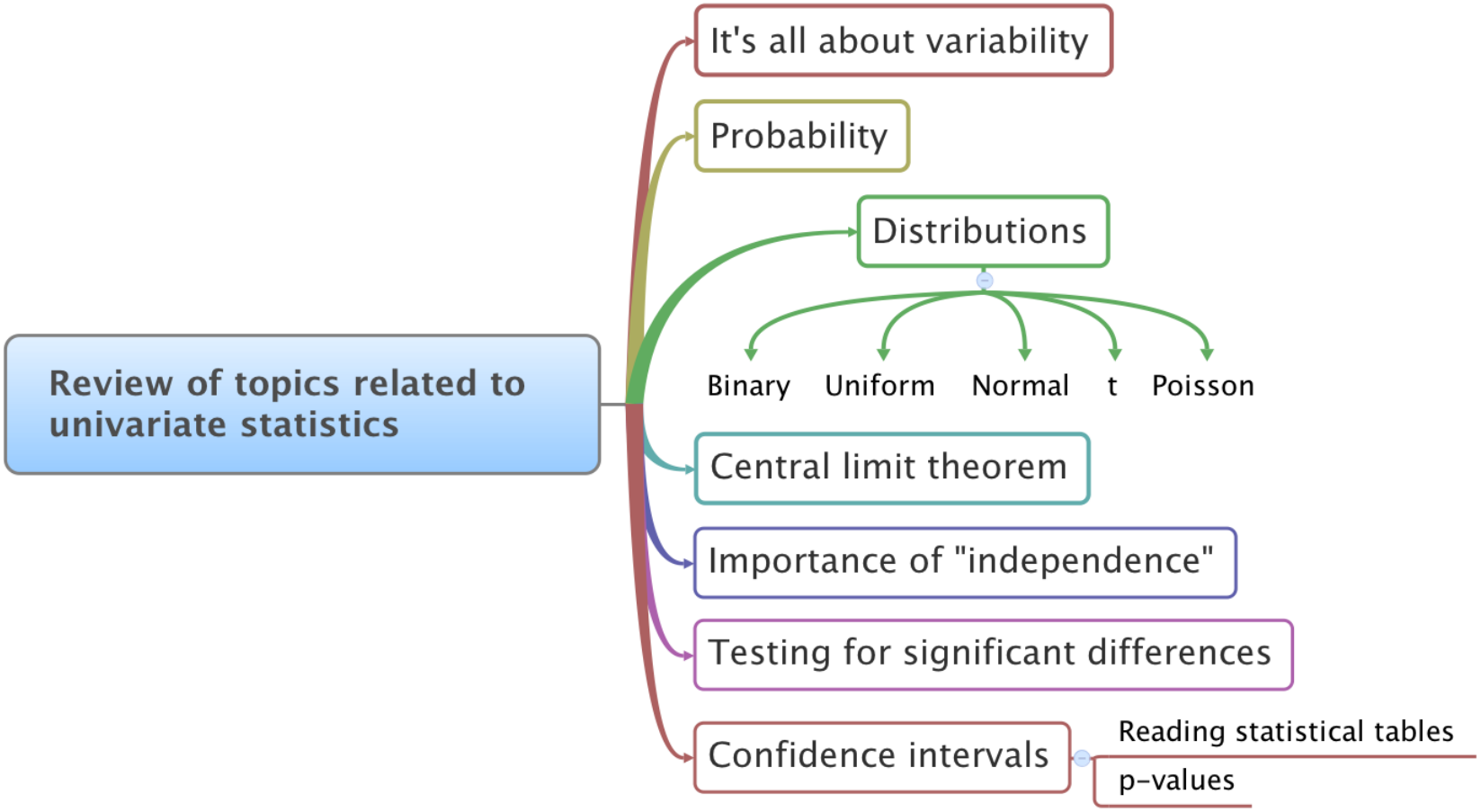
Ch.0 Introduction

Data visualization



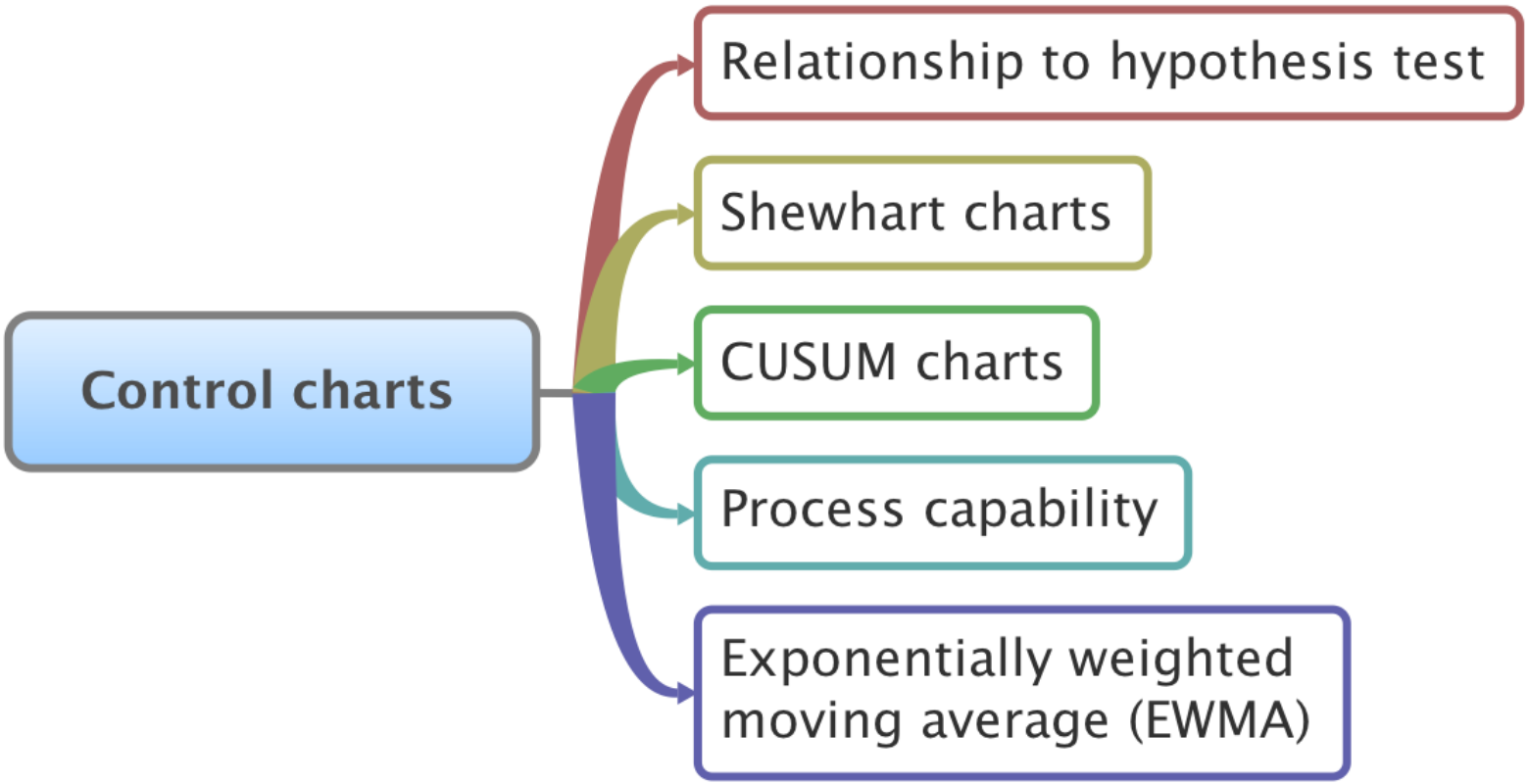
Ch.0 Introduction

Basic statistics



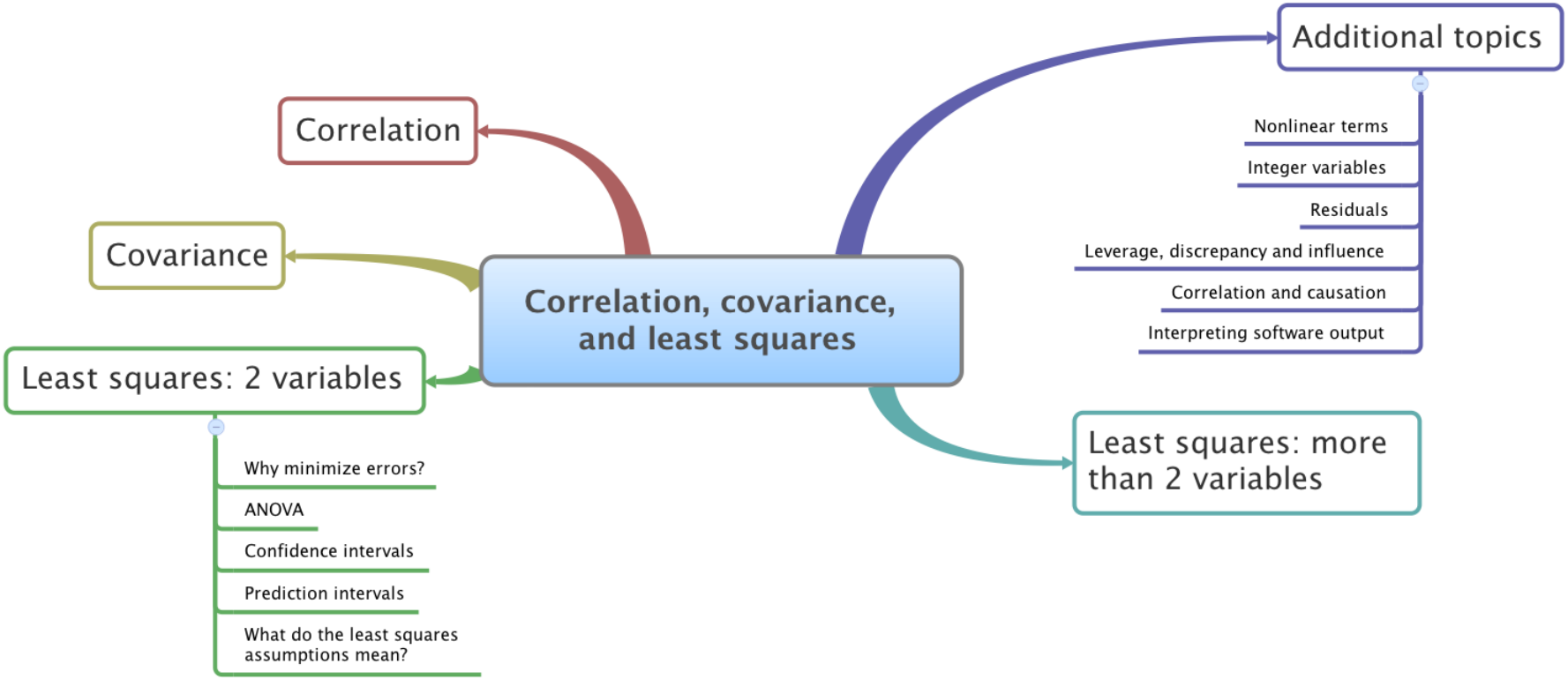
Ch.0 Introduction

Process monitoring (aka statistical process control)



Ch.0 Introduction

Least squares



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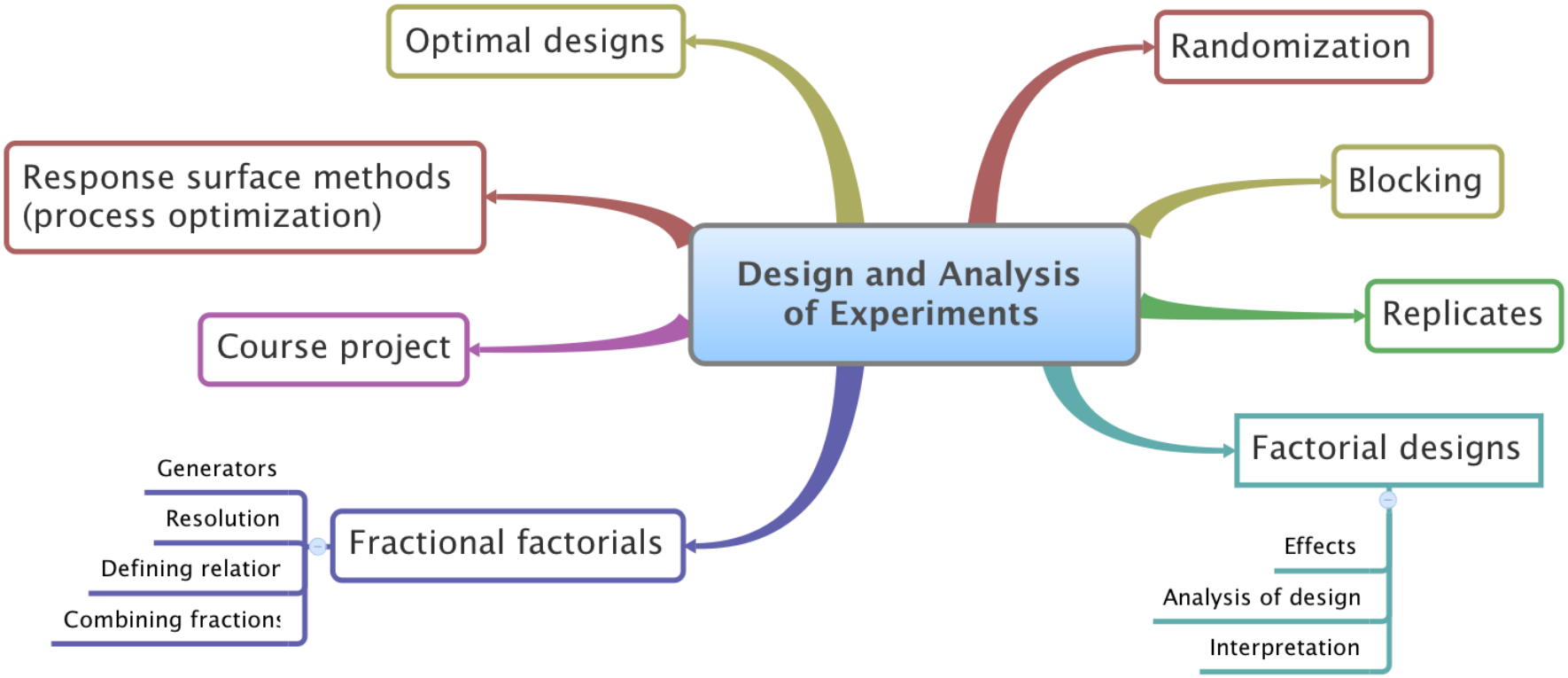
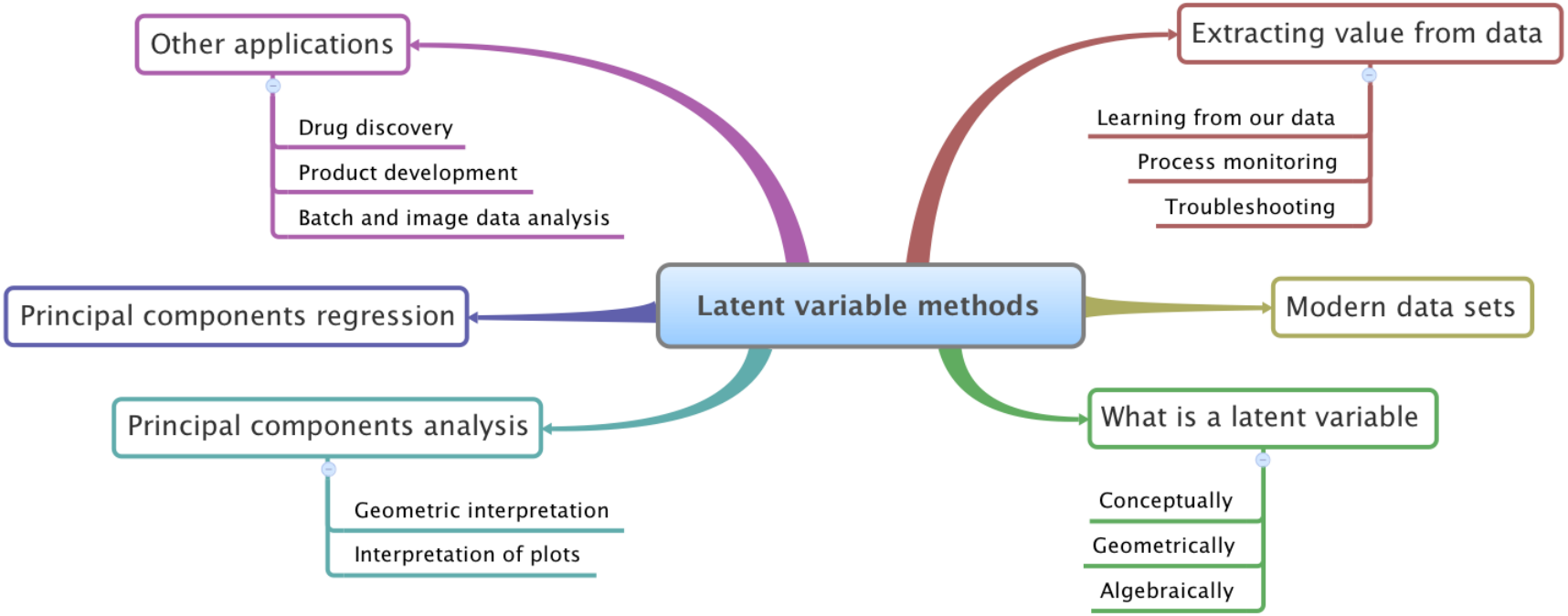
Design of Experiments (DOE)



Ch.0 Introduction

Multivariate statistics – intro.



Acknowledgement

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