Multivariate Statistical Methods: Advanced Topics

ICPSR Summer Program 2018

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Text Book:


Note that you could also get by with the 2nd Edition and I believe that you can find these in the University Library and maybe even as an Ebook

Objective:

The purpose of this class is to provide an understanding of the basic set of multivariate statistics that are use. In addition, it is my intent to provide realistic applications for which these will be used and provide the tools required (i.e., SAS and R examples) to complete these analyses.

The basic set of topics will follow the textbook closely and therefore the topics covered will include but are not limited to:

Basic Linear Algebra
Multivariate Normal Distributions
Hypothesis Testing for 1, 2 or more mean vectors
Multivariate ANOVA
Discriminant Analyses
Cluster Analyses
Multivariate Regression
Canonical Correlation
Principal Components Analysis
Factor Analysis
Grading:

Your grade in this class will be determined based on homework assignments (33%), a midterm exam (33%), and a final exam (33%).

Homework Assignments:
Throughout the semester there will be approximately 7 homework assignments that will be used to test your knowledge on the materials taught in class and in the textbook. Most of these will be taken from the book. They will be assigned in class. In addition, for each day that they are late you will lose one point. The homeworks in total will be worth 100 points.

“Midterm” and “Final”:
The midterm and Final will both be take home and in many ways can be thought of as homework assignments that extend across more than a single chapter (whereas the “homework” assignments are specific to a chapter). You will be given 4 days to complete them. Because they are take home exams, you can use any notes, textbooks, or software that you need to answer the questions. However, because these are exams you will not be allowed to work with each other. The Midterm and Final will each be worth a total of 100 points.

Grade Cut-Offs:
The following are the lower cutoffs that will guarantee that grade.

97% = A+
93% = A
90% = A-
87% = B+
83% = B
80% = B-
<80% C
**Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Chapter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun-26</td>
<td>Introduction and Linear Algebra</td>
<td>Chap 1 and 2</td>
</tr>
<tr>
<td>Jun-27</td>
<td>Linear Algebra</td>
<td>Chap 2</td>
</tr>
<tr>
<td>Jun-28</td>
<td>Characterizing and Display</td>
<td>Chap 3</td>
</tr>
<tr>
<td>Jun-29</td>
<td>The Multivariate Normal</td>
<td>Chap 4</td>
</tr>
<tr>
<td>July-2</td>
<td>Tests on 1 and 2 Mean Vectors</td>
<td>Chap 5</td>
</tr>
<tr>
<td>July-3</td>
<td>Tests on 1 and 2 Mean Vectors</td>
<td>Chap 5</td>
</tr>
<tr>
<td>July-4</td>
<td>No Class</td>
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</tr>
<tr>
<td>July-5</td>
<td>MANOVA</td>
<td>Chap 6</td>
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<tr>
<td>July-6</td>
<td>MANOVA <em>(HW 1 Due)</em></td>
<td>Chap 6</td>
</tr>
<tr>
<td>Jul-9</td>
<td>MANOVA</td>
<td>Chap 6</td>
</tr>
<tr>
<td>Jul-10</td>
<td>Discriminant Analysis</td>
<td>Chap 8</td>
</tr>
<tr>
<td>Jul-11</td>
<td>Discriminant Analysis <em>(Midterm Due)</em></td>
<td>Chap 8</td>
</tr>
<tr>
<td>Jul-12</td>
<td>Classification Analysis</td>
<td>Chap 9</td>
</tr>
<tr>
<td>Jul-13</td>
<td>Multivariate Regression</td>
<td>Chap 10</td>
</tr>
<tr>
<td>Jul-16</td>
<td>Canonical Correlations</td>
<td>Chap 11</td>
</tr>
<tr>
<td>Jul-17</td>
<td>Principal Components and Factor Analysis <em>(HW 2 Due)</em></td>
<td>Chap 12</td>
</tr>
<tr>
<td>Jul-18</td>
<td>Principal Components and Factor Analysis</td>
<td>Chap 12 and 13</td>
</tr>
<tr>
<td>Jul-19</td>
<td>Principal Components and Factor Analysis</td>
<td>Chap 13</td>
</tr>
<tr>
<td>Jul-20</td>
<td>Cluster Analysis</td>
<td>Chap 14</td>
</tr>
<tr>
<td></td>
<td><em>(Final Due July 23th)</em></td>
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