Clinical Decision Analysis - CLRE 264
Summer 2016
Jim Murphy, j2murphy@ucsd.edu

Course Goal: To provide an overview of decision analysis, and cost-effectiveness research in health care.

Course Objectives:
By the end of the quarter the student will understand the theory and application of how to

a) Build and evaluate a decision tree

b) Create and interpret a cost-effectiveness analysis

c) Conduct a basic sensitivity analysis

d) Understand the application and limitations in decision and cost-effectiveness analyses

Course Requirements:
Required for class:
Access to a laptop (Windows or Mac) that can be brought to class

Required software:
Student version of TreeAge Pro Healthcare ($45, SEE BELOW FOR MORE INFORMATION).

Optional textbooks:

Optional (classic) textbooks:


Grading Criteria:
Class attendance and participation
Final project (due morning of last class, 9:00am, September 6th)

Course Mechanics:
Class will be held Tuesdays from 2:00 PM to 3:50 PM.
UCSD Extension, University City Center – 6256 Greenwich Dr – Room #112
First part of each class will be lecture (theory), and second half will be lab (application).

Teaching Assistant: Kaveh Zakeri (kzakeri@ucsd.edu)
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic (first part of class)</th>
<th>Lab (second part of class)</th>
<th>OPTIONAL reading</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6/28</td>
<td><strong>Introduction:</strong> Everything you need to know about decision analysis, and cost-effectiveness analysis</td>
<td>Download and install TreeAge (see ordering information below)</td>
<td></td>
<td>Download and install TreeAge software (see below)</td>
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<tr>
<td>2</td>
<td>7/5</td>
<td><strong>Decision analysis:</strong> probability, basic decision trees, rolling back a tree</td>
<td>Build a basic decision tree</td>
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<tr>
<td>3</td>
<td>7/12</td>
<td><strong>Quality of life:</strong> health utility, QALY, DALY</td>
<td>Decision tree building II</td>
<td>Hunink, chapter 4</td>
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<tr>
<td>4</td>
<td>7/19</td>
<td><strong>Cost-effectiveness research</strong></td>
<td>Build a cost-effectiveness model</td>
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<tr>
<td>5</td>
<td>7/26</td>
<td><strong>Markov models I:</strong> overview</td>
<td>Markov modeling</td>
<td>Hunink, chapter 10</td>
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<td>6</td>
<td>8/2</td>
<td><strong>Markov models II:</strong> tunnels, tolls, and more</td>
<td>Markov modeling</td>
<td>Hunink, chapter 10</td>
<td>Final distributed</td>
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<tr>
<td>7</td>
<td>8/9</td>
<td><strong>Measuring cost:</strong> cost finding, inflation, discounting</td>
<td>Build a cost-effectiveness model II</td>
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<td>8</td>
<td>8/16</td>
<td><strong>Sensitivity analyses:</strong> one-way, two-way, probabilistic, Monte Carlo simulations.</td>
<td>Sensitivity analyses</td>
<td>Hunink, chapter 12</td>
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<tr>
<td>9</td>
<td>8/23</td>
<td><strong>Finishing touches:</strong> debugging and validation</td>
<td>Debugging and validating your final projects</td>
<td>Hunink, chapter 11</td>
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<td>10</td>
<td>8/30</td>
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<tr>
<td>11</td>
<td>9/6</td>
<td>NO CLASS</td>
<td></td>
<td>Final exam due 9/6 at 9:00am</td>
<td></td>
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</tbody>
</table>

### How to buy Student Course License for TreeAge Pro Healthcare

1. Go to [https://www.treeage.com/shop/](https://www.treeage.com/shop/)
2. You want to purchase “TreeAge Pro Healthcare”
3. Select “Academic Use”, and “Purchase Student Course License”
4. The cost should be $45.00
5. Select “ADD TO CART”
6. On the next screen enter your “Contact Information”, and “Billing Information”
7. Enter your academic email address (@ucsd.edu), and academic institution (University of California San Diego)
8. Enter your faculty advisor email address (if you don’t have one enter my email address: j2murphy@ucsd.edu), and degree sought.
9. Enter the course instructor email address (j2murphy@ucsd.edu), and the course name (Clinical Decision Analysis (CLRE 264)).