BIOS 844: Leadership in Biostatistics  
Fall 2013  
Monday-3:00 PM to 5:45PM  
Room: 1304  
Course Instructors:  
Sonia Davis, DrPH  
Professor of the Practice, Dept. of Biostatistics  
William A. Sollecito, DrPH  
Clinical Professor, Public Health Leadership Program  

COURSE OVERVIEW  
The general goal of this course is for students to understand where and how biostatisticians can offer leadership (statistical and otherwise) in both academic and non-academic public health settings. It is seen as complementary to BIOS 841, which emphasizes basic methodological competence in practical applications, but does not cover leadership in biostatistics.  
The proposed teaching approach is to combine an examination of leadership principles with practical exposure to these principles in biostatistics by learning from the experiences of biostatisticians who have served in various statistical leadership roles. Classroom sessions dealing with principles and methods will follow a lecture format. Other sessions will involve presentations and discussions. The quality of the group papers and class participation will determine each student’s grade in the course.  

COURSE OBJECTIVES  
This course is designed for students to learn:  
1. About leadership and its basic principles  
2. The different leadership “styles” one might adopt  
3. Where in academic and non-academic settings in public health there are opportunities for biostatisticians to provide both statistical and non-statistical leadership  
4. About specific elements of leadership in: (i) research teams of which biostatisticians are members, (ii) administrative and non-administrative roles in academia, (iii) organizations in which biostatisticians are employed, and (iv) settings in which biostatisticians provide leadership through professional service  
5. (Through practical exposure) what prominent biostatisticians have experienced as leaders and thereby learned about leadership  

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MODULES

1. Broad Leadership Concepts
2. Personal vs Team vs Organizational Leadership
3. Facilitative / Management Skills
4. Leadership Stories/Examples
   - Guest lectures will be presented by current leaders in biostatistics
   - Historical examples of leaders will be presented as vignettes throughout the course

EXPECTATIONS OF STUDENTS

Class sessions will often have group discussions and guest speakers. Each student should be an active contributor to all group discussions and activities.

Please demonstrate respect for your classmates by turning off all cell phones or beepers.

Use of laptop computers may occasionally be necessary for class projects. However, while class is in session, we ask that you do not use these for non-class related purposes.

Attendance at each class is expected. More than one unexcused absence will result in a deduction to the final grade by 10 percentage points per unexcused absence. Unexcused tardy behavior or early departure will be treated on a similar, pro-rated basis.

HONOR CODE

The Honor Code and the Campus Code, embodying the ideals of academic honesty, integrity, and responsible citizenship, have for over 100 years governed the performance of all academic work and student conduct at the University. Acceptance by a student of enrollment in the University presupposes a commitment to the principles embodied in these codes and a respect for this most significant University tradition.

Your participation in this course comes with my expectation that your work will be completed in full observance of the Honor Code. Academic dishonesty in any form is unacceptable, because any breach in academic integrity, however small, strikes destructively at the University’s life and work.

If you have any questions about your responsibility or the responsibility of faculty members under the Honor Code, please consult with someone in either the office of the Student Attorney General (telephone: 919-966-4084) or the Office of the Dean of Students (telephone: 919-966-4042). For additional information about the honor code, please also refer to the University website. The Information for Students and Plagiarism sections are especially helpful.
The professors reserve the right to make changes to the syllabus, including project due dates and test dates, when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.

<table>
<thead>
<tr>
<th>Week : Date</th>
<th>Topic (Instructor)</th>
<th>Reading Preparation</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>1: Aug. 26</td>
<td>Course Overview</td>
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<td>Assignment:</td>
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<td></td>
<td>What is leadership? (WS)</td>
<td>Required reading:</td>
<td>Complete pre-course survey (in class)</td>
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<td></td>
<td>• Leadership vs. Management</td>
<td>• AMS Ch. 1</td>
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<td>o Management pathways to leadership</td>
<td>• Knowling, R, “Why vision matters” (online link)</td>
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<td></td>
<td>• Vision</td>
<td>• Begin reading Lencioni’s The Five Dysfunctions of a Team for discussion Oct. 14th</td>
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<td></td>
<td>Ethics (SD)</td>
<td>• Davidian, M, Professional ethics for Statisticians</td>
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<td>Optional Reading:</td>
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<td>• Northouse Ch. 16</td>
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<td>2: Sept. 2</td>
<td>HOLIDAY</td>
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<td>3: Sept. 9</td>
<td>Student Presentations – Assignment 1</td>
<td>Required reading:</td>
<td>Assignment:</td>
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<td>Strategic Thinking (WS)</td>
<td>• AMS Ch. 2</td>
<td>Student write-up / presentation of a Leadership profile using broad concepts (Due 9/9)</td>
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<td>• Strategic actions</td>
<td>• Mintzberg: The fall and rise of strategic planning (online link)</td>
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<td>• Strategic planning</td>
<td>• Pine, Sheconomics: Why more women on boards boost company performance 2011*</td>
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<td>Diversity in Leadership/ Balancing Work/Life Commitments (SD)</td>
<td>Optional reading:</td>
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<td>• Northouse Ch. 14</td>
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<td>4: Sept. 16</td>
<td>Decision Making(WS)</td>
<td>Required reading:</td>
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<td>Personal Leadership Styles: David Steffen (DS)</td>
<td>• AMS Ch. 4</td>
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<td>Review/ discussion of leadership style instruments for students</td>
<td>Optional reading:</td>
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<td>• Northouse : Ch. 4*</td>
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<td>• Grove, Ch. 5</td>
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<td>Week : Date</td>
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| 5: Sept. 23 | Financial Literacy (SD)  
Leadership Role in Financial Planning and Oversight (SD)  
Personal Leadership Styles(cont’d) (DS)  
Emotional Intelligence Other Personal Leadership Topics (DS) | | Set up individual meetings with Dr. Steffen (optional) |
| 6: Sept. 30 | Transactional vs transformational leadership; Transformational leadership and Innovation (WS)  
- Leading Change  
  - Kotter’s Model  
  - Bridges Model  
- CQI as a model for change and Innovation  
  - CQI History/Philosophy  
  - Statistical thinking in CQI  
  - CQI Tools  
Management Skills and Tools (WS)  
- Systems/Production Flow  
- Drug development model  
- Flow Charting  
- Planning (Gantt Charts) | Required reading:  
- AMS Ch. 10  
Optional Reading:  
- Kotter Ch. 1,2*  
- Northouse, Ch.9*  
- Sollecito & Johnson: Chap 1,3*  
- Grove Ch.1,2*  
- Swanson, Masters of servitude *  
- Menkens, A.J. and Amelio, R.C. Leaders and Organizations in Transition 2009  
- Bridges Ch.1,2 | • Midterm assignment posted on Sakai |

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<tr>
<td>7: Oct. 7</td>
<td>Communications/meetings (SD)</td>
<td>Required reading:</td>
<td>• Complete Lencioni Assignment– due 12:00 noon on Friday, October 11&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>Motivation and Empowerment (WS)</td>
<td>• AMS Ch.3,5</td>
<td><a href="https://unc.qualtrics.com/S">https://unc.qualtrics.com/S</a> E/?SID=SV_bPcbzech0WiwJ0h</td>
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<td>• Delegation</td>
<td>• Landry, 2012. The fine art of delegation</td>
<td>• Book discussion Oct.14&lt;sup&gt;th&lt;/sup&gt;</td>
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<td></td>
<td>• Maslow’s triangle</td>
<td>Optional reading:</td>
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<td>• Task relevant maturity</td>
<td>• Grove, Ch. 3,4,11,12*</td>
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<td>• Kotter, Ch. 7*</td>
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<td>8: Oct. 14</td>
<td>Module 3: Team / Project Leadership / Management: Lori Evarts</td>
<td>Required reading:</td>
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<td>Teams</td>
<td>• Lencioni 5 Dysfunctions</td>
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<td>• Overview of Lencioni 5 Dysfunctions Reading</td>
<td>• AMS, pp. 167-188</td>
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<td>Projects</td>
<td>Optional reading:</td>
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<td></td>
<td>• Selected topics / overview of project management</td>
<td>• Northhouse Ch. 11*</td>
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<td>9: Oct. 21</td>
<td>Organizational Leadership/ Culture (WS)</td>
<td>Required reading:</td>
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<td>Case study: Project teams and the matrix structure in academia &amp; industry (SD)</td>
<td>• AMS Ch.7, 9</td>
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<td>• AMS pp.191-193</td>
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<td>Optional reading:</td>
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<td>• Grove, Ch.8,9*</td>
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<td>• Kotter, Ch.10*</td>
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<td>• Shortell and Kaluzny, Ch.10*</td>
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<td>• Northhouse Ch. 14*</td>
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<td>• Sollecito &amp; Johnson, Ch 2*</td>
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<td>10: Oct. 28</td>
<td>Effective Time Management (WS)</td>
<td>Required reading:</td>
<td>• Midterm Assignment Due</td>
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<td>Public speaking and presentations (SD)</td>
<td>• Mayo Clinic. 2012 (online reference)</td>
<td>• Student presentation assignment posted (Nov. 18)</td>
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<td>Optional reading:</td>
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<td>• Northhouse Ch. 13*</td>
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| 11: Nov. 4  | Professional Service/Society Leadership (Guest leader: Bob Rodriguez, Past president, American Statistical Association) | Required reading:  
• Readings as identified by guest lecturer |  |
| 12: Nov. 11 | Leadership in a Government Agency (Guest leader: Lisa LaVange, FDA) | Required reading:  
• Readings as identified by guest lecturer |  |
| 13: Nov. 18 | Student Video Presentations Conflict Resolution (LE) | Required reading:  
• AMS, pp 124-144, 189-195 | • Student presentations due  
• Final Assignment Posted |
| 14: Nov. 25 | Academic Leadership (Guest leader: Michael Kosorok, Chair, UNC BIOS Department) | Required reading:  
• Readings as identified by guest lecturer |  |
| 15: Dec. 2  | Industry Leadership (Guest leader: Olga Marchenko, Quintiles) | Required reading:  
• Readings as identified by guest lecturer |  |
| 16: Dec. 9  | Final exam/Course wrap up:  
• Contrasting Industry and Academic Leadership (SD)  
• Leadership and lifelong Learning(WS)  
The Role of Leaders as Mentors (SD)  
• Intel Case study  
Social Activity  | Required reading:  
• Zerzan, Making the most of mentors: a guide for Mentees, 2009  
Optional reading:  
• Kotter, Ch.12*  
• Cochran, J.J., Deng, C., Dominici, F., Gillespi, A., Mocko, M. 2011 “Careers in statistics: Where will your next stop take you?”*  
• Tichi  
• Gale, S.F. The upside of failure*  
• Gale, S.F., Building Leaders, Intel Case study*  
• DelGrosso, The courage to fail | • Final Assignment Due |
GUEST LEADERS

Lori Evarts, MPH, Clinical Assistant Professor, UNC Public Health Leadership Program
Michael Kosorok, PhD, Chair, UNC Department of Biostatistics
Lisa LaVange, PhD, Director of Biostatistics, CDER, FDA
Bob Rodriguez, PhD, Past-president, American Statistical Association
David Steffen, DrPH, Clinical Assistant Professor, UNC Public Health Leadership Program
Olga Marchenko, PhD, Vice President, Center for Statistics in Drug Development, Innovation, Quintiles

GRADING

Grading will include individual and small-group exercises that are designed to provide students with practical exposure to leadership principles. Class participation, including in–class exercises and interaction with guest lecturers will be an important part of the weighting for the final grade.

Weighting of activities to assign grades:

- Leadership Profile: 20%
- Other Assignments (combined, including Midterm): 30%
- Class Participation: 20 %
- Final Assignment: 30%

COURSE EVALUATION

The course evaluation is scheduled to be available online during the last two weeks of the semester. We encourage students to complete the evaluation and provide comments to assist us in structuring the course in a helpful manner. We appreciate your participation in this process and your thoughtful feedback.

FINAL EXAM POLICY

Due to university policy, our course is required to meet during the university-assigned final exam period. Please plan to attend the beginning of that time period in order to submit the final exam. If this policy causes you considerable hardship, we would ask that you contact both instructors as soon as possible. Exemptions may need to be approved by our department chair.
Readings: (@ to be purchased for course; * will be put on reserve in BIOS Dept):

Required:


Mintzberg: *The Fall and Rise of Strategic Planning*


Hoboken, NJ: Wiley-Liss Inc. (AMS)


Optional / Leadership Bibliography

http://magazine.amstat.org/blog/2011/09/01/translation/


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*DelGrosso S. 2010. The courage to fail. PM Network, Leadership – Do you have what it takes? 24(10):56-57


http://www.mayoclinic.com/health/time-management/WL00048/METHOD=print


Raelin JA. 2006. *Creating Leaderful Organizations:*
http://www.northeastern.edu/poe/we-the-leaders.pdf


*Shortell S. and Kaluzny A. Health Care Management, Organizational Design and Behavior*

