Associate Professor Norman P. Lewis, Ph.D.
Office: Weimer 3052
Office hours: Mondays periods 9-10 (4 to 6 pm) & Tuesdays periods 5-6 (12:45 to 2:45 pm)
Phone: 352-392-5137 (I respond within 24 hours Monday through Friday)
E-mail: nplewis@ufl.edu (I respond within 24 hours Monday through Friday)
Website: www.bikeprof.com

Office hours are without appointment: first-come, first-served. If office hours are inconvenient, make an appointment. Or if my door is open, drop in.

Course Description
The purpose of this course is to equip journalists to correctly interpret and report numbers. This is less a course in math than one in numeracy – literacy about numbers. Math involves plugging numbers into formulas while numeracy evaluates evidence and claims.

The course is required for our college’s professional master’s program. It is open to any UF graduate student with the understanding that this is not a statistics course suitable for a master’s thesis and that you already know something about the practice of public affairs journalism.

Course Objectives
By the end of the course, students should be able to:

• Use logic and informed skepticism to evaluate assertions and numbers
• Calculate percentage and average, and know when to use each type
• Translate large numbers in ways the audience can understand
• Calculate basic probability and interpret the results
• Distinguish between random events and meaningful patterns
• Define evidence, truth, proof, claim, correlation and causation
• Discern between absolute and relative risk in health studies
• Evaluate and interpret public opinion polls
• Understand statistics sufficiently to report on scientific research
• Identify human biases that can cause us to misinterpret numbers

Required Textbooks

Calculator
You can use a nonprogrammable calculator for quizzes and tests. Examples include solar calculators, $5 calculators and scientific calculators such as the TI-30. Bottom line: If the calculator is just a calculator and it displays only one row of numbers, it’s acceptable.

Unacceptable are any devices that can store data. Forbidden are programmable calculators with a multi-line display, such as the TI-84. So, too, is any kind of cellphone, smartphone, tablet, music player or e-reader. In other words, your iPhone is not allowed.

Online Resources
- Polling: Advice for journalists from the American Association for Public Opinion Research
- Polling: Questions journalists should ask, by the National Council on Public Polls
- Statistics: Computing averages and percentages by Robert Niles
- Statistics: A primer for journalists by Leighton Klein

Grade Allocation
“Stat-Spotted” paper ........................................ 5%
“Drunkard’s Walk” presentation ..................... 5%
Homework assignments .............................. 5%
Class participation .................................... 5%
Weekly quizzes (best 8 out of 10) ............ 30%
Midterm exam ........................................... 20%
Final exam ................................................ 30%
Total ................................................... 100%

Grading Scale

<table>
<thead>
<tr>
<th>Percent</th>
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<tbody>
<tr>
<td>A- 92-90%</td>
<td>B- 82-80%</td>
<td>C- 72-70%</td>
<td>D- 62-60%</td>
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<tr>
<td>A 100-93%</td>
<td>B 86-83%</td>
<td>C 76-73%</td>
<td>D 66-63%</td>
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<td>B+ 89-87%</td>
<td>C+ 79-77%</td>
<td>D+ 69-67%</td>
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Scores are rounded to the nearest whole point: 89.4 rounds down to 89 (B+) while 89.5 rounds up to 90 (A-). The UF Graduate School grading policy specifies that a passing grade for any course is a C or above, and that satisfactory progress requires an overall GPA of 3.00 or above.

Attendance
Course requirements for class attendance, make-up exams, assignments and other work are consistent with UF graduate school policy. Weekly quizzes cannot be made up because we’re going to review the answers in class. Instead, only the best eight out of 10 quizzes will count so that you can have two drops to cover illness, family emergencies or late-arriving buses.

A make-up for the midterm or final can be accommodated if and only if (a) the absence is covered by UF policy, (b) you contact the professor at least 30 minutes before class begins and (c) you promptly provide written documentation for the absence.
## Tentative Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Details</th>
<th>Quiz</th>
<th>“Math Tools” readings</th>
<th>Assignment</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Jan. 7</td>
<td>No class</td>
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<tr>
<td>2</td>
<td>Jan. 14</td>
<td>Number sense</td>
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<tr>
<td>3</td>
<td>Jan. 21</td>
<td>Percentage</td>
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<td>4</td>
<td>Jan. 28</td>
<td>Average</td>
<td></td>
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<tr>
<td>5</td>
<td>Feb. 4</td>
<td>Comparisons</td>
<td></td>
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<tr>
<td>6</td>
<td>Feb. 11</td>
<td>Polling mechanics</td>
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<tr>
<td>7</td>
<td>Feb. 18</td>
<td>Polling questions</td>
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<tr>
<td>8</td>
<td>Feb. 25</td>
<td>Midterm exam</td>
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<td></td>
<td>March 4</td>
<td>SPRING BREAK</td>
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<tr>
<td>9</td>
<td>March 11</td>
<td>Probability and risk</td>
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<tr>
<td>10</td>
<td>March 18</td>
<td>Randomness</td>
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<tr>
<td>11</td>
<td>March 25</td>
<td>Truth and error</td>
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<tr>
<td>12</td>
<td>April 1</td>
<td>Scientific research</td>
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<tr>
<td>13</td>
<td>April 8</td>
<td>Bias</td>
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<td>14</td>
<td>April 15</td>
<td>Summary</td>
<td></td>
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<tr>
<td>15</td>
<td>April 22</td>
<td>Final exam</td>
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### Weekly Quizzes

Quizzes will be given at the beginning of each class starting on Jan. 21. A calculator is permissible if it meets the specifications above. Each quiz will cover the material discussed in the previous week’s class. Each quiz will have five to 10 questions. Some will be multiple-choice. Others will be open-ended calculations. Some will ask you to use the number or describe the idea in a sentence. The eight highest quiz scores (out of 10 given) will count toward the grade.
Exams
The exams will be just like the quizzes in format. Each will be cumulative, which is why the final will count more toward your grade than will the midterm. A calculator is permissible if it meets the specifications above. You will have the entire three-hour period to take each exam.

Assignments
“Stat-Spotting” paper (5%). Due on paper at 9:35 a.m. Jan. 14
Write a two-page paper in table form summarizing each of the 32 numerical errors identified by the author and offer your suggestion for how journalists should respond to avoid or fix those errors. I’ve done the first three for you as a template. Copy and paste the following table into your word processor and complete the rest, C2 through H3.

<table>
<thead>
<tr>
<th>No.</th>
<th>Numerical Issue</th>
<th>Journalists Should</th>
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<tbody>
<tr>
<td></td>
<td><strong>BACKGROUND</strong></td>
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<tr>
<td>B1</td>
<td>Statistical Benchmarks: Numbers that conflict with benchmarks such as 4 million babies born annually</td>
<td>Know numbers such as 2.5 million deaths per year to question claims such as 4 million spouse-abuse deaths annually</td>
</tr>
<tr>
<td>B2</td>
<td>Severity and Frequency: In general, the worse things are, the less common they are</td>
<td>Look for dramatic anecdotes improperly associated with big numbers; an outlier is uncommon</td>
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<tr>
<td></td>
<td><strong>BLUNDERS</strong></td>
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<tr>
<td>C1</td>
<td>Slippery Decimal Point: Numbers that seem surprisingly small or large.</td>
<td>Do the math</td>
</tr>
</tbody>
</table>

“Drunkard’s Walk” presentation (5%). In class on March 18
Each student will be assigned a chapter for a 15-minute classroom presentation. Your presentation should cover both the highlights of the chapter and engage the class in some way – a quiz, an activity to do in pairs, a group exercise, etc. You can use a PowerPoint or the whiteboard or a handout or whatever you think will be effective. Be creative!

Questions from the entire book will be on the final exam – which means you’ll want to read the entire book and not just the chapter you’re assigned.

Homework assignments (5%). Due on paper at 9:35 a.m. on various dates
At various points you’ll be assigned with a week’s notice to find a fresh (no older than 30 days) example of the use or abuse of numbers by professional journalists (not collegiate journalists or readers) and report on those in class. Do some online fact-checking to determine whether the numbers were used properly or what should have been done instead. Summarize your findings on a single page, double-spaced. Attach a printout or the original article.

Class participation (5%). Weekly
These points will be based on timely attendance, oral classroom participation, contributions to the April 15 summary class (more to come on that) – and on cellphone avoidance.
**Deadlines**
All assignments are due in paper at the start of class: 9:35 a.m. Journalists must meet deadlines, so late assignments will count as zero. If you are ill, have a classmate or friend turn in the assignment for you before it is due. Emails are not accepted.

**Classroom Demeanor**
As a graduate student, you should expect that I create a classroom conducive to learning. To do so means I have prepared well. It also means that I come to class on time, foster an environment focused on your learning, and put away the cellphone so I can focus on the classroom.

I have the same expectations of you. Be prepared for class. Come on time. Contribute to a learning environment. And put the cellphone away.

**Course Evaluations**
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations. You will be notified by email when the evaluations are open, near the end of the semester. Summary results are available to you and the general public.

**Academic Integrity**
University of Florida students pledge to abide by an honor code that prohibits academic dishonesty such as plagiarism, cheating and unauthorized assistance. You have an affirmative obligation to know and understand what constitutes academic dishonesty. You also are required to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please contact me.

When I discover cheating, my default policy is to fail all involved for the entire course and report the details to the college’s associate dean for graduate studies, Dr. Treise.

**Students with Disabilities**
If you would benefit from disability-related accommodations, contact the Disability Resource Center as early in the semester as possible. The center will provide you with an accommodation letter you’ll need to provide to me. The center is in Reid Hall, 392-8565.

**Help With Coping**
The UF Counseling and Wellness Center is a terrific, free resource for any student who could use help managing stress or coping with life. The center, at 3190 Radio Road on campus, is open for appointments and emergency walk-ins from 8 a.m. to 5 p.m. Monday through Friday. To make an appointment or receive after-hours assistance, call 352-392-1575.

The UF Police can be reached at 392-1111 or, in an emergency, by dialing 911.