1 When, Where and Who

1. **Time**: Monday and Wednesday, 6:10 - 8:00 p.m. Recitation TBA.
2. **Room**: Monroe Hall B32
3. **Instructor**: Dr. Timothy P. Keller
4. **Office Hours**: Monday and Wednesday, 5:10 - 6:00 p.m.
5. **E-mail**: tkeller@gwu.edu

2 Materials

The primary source for lectures, homework exercises and examinations will be my lecture notes. A calculator is required. A simple model that adds, subtracts, multiplies and divides, has a memory and a square root key will suffice. You may certainly use a more sophisticated model, but be able to actually use whatever calculator you choose. (See Section 7.)

3 Basis for Evaluation

1. **Homework**
   Homework problems will be assigned every week, if not every lecture.

2. **Examinations and Final**
   The first examination and the final will be closed-book, closed notes. Tentatively, the first examination will cover sections 1 to 8 of the course notes; the second examination will cover sections 9-16. The final will be comprehensive.

   Make-up examinations will be granted for medical reasons, or with written documentation of required attendance at a university sanctioned event.
4 Grading

Grades will be based on homework problems, the two examinations during the semester, and a final examination. Each of these four components account for 25% of the overall grade. A score of 90% is a guaranteed A; a score of 80% is a guaranteed B; a score of 70% is a guaranteed C. I don’t calculate course grades on BlackBoard, - just so you know.

Examinations may not be easy, but they should not be a surprise. Before each examination a practice examination with solutions will be presented. Study it. Complete any calculations left unfinished in the notes or during lecture, and make sure you can fill in the details. I am very fond of optional problems, both for homework and examination questions. They are, of course, - optional. Nevertheless, I would recommend that you do at least some of them.

1. Optional problems can be used as make-ups for homework assignments you might (by some remote, inconceivable chance) miss.
2. Optional problems can serve as extra-credit.
3. Optional problems are often interesting and challenging, - and one might learn something! Isn’t that why we’re here??

5 Learning Outcomes

Students of STAT1051 upon completion of the course will be able to

1. Apply laws of probability
2. Construct and interpret confidence intervals
3. Evaluate evidence for and against hypotheses using statistical tests
4. Find the least-squares equation for simple linear regression and assess the utility of the model.

5.1 Note on Course Credit

Stat 1051, 1053, 1111, and 1127 are related in their subject matter, and credit for only one of these courses may be applied toward a degree. One entrance unit in algebra is prerequisite to all courses in statistics.
6 Administrative Matters

6.1 Academic Integrity

I personally support the GW Code of Academic Integrity which states: Academic dishonesty is defined as cheating of any kind, including misrepresenting one’s own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information. For the remainder of the code, see: http://www.gwu.edu/integrity/code.html

6.2 Disability Support Services (DSS)

Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/

6.3 University Counseling Center (UCC)

The University Counseling Center (UCC), 202-994-5300, offers continuous assistance and referral to address students personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations, confidential assessment, counseling services (individual and small group), and referrals. For additional information refer to:

http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices

6.4 Security

In case of an emergency, even in the case of a re drill or false alarm, the class will go home.

7 Advice about Calculators

7.1 Using Calculator Memory

Even quite inexpensive calculators have a memory these days, and it’s worth figuring out how to use it. Using the calculator memory one can calculate an expression such as
\[
\begin{align*}
2.21 + 5.03 \\
1.91 + 7.04
\end{align*}
\]

without having to write down intermediate results.

### 7.2 Anticipate Computational Results

Doing a rough mental estimate of a computation can prevent many glaring errors.

For example, one can anticipate that \(\sqrt{572}\), is certainly between 20 and 30. (Even between 20 and 25, depending on who the 'one' is ... , but no matter.)

Hence \(\sqrt{\frac{572}{42}}\), is obviously between 0 and 1, and so, with no calculation at all, it must be the case that

\[
3 + \frac{\sqrt{572}}{42}
\]

is between 3 and 4. Every man born of woman makes computational errors, sure; but thinking about the result, one makes fewer mistakes than mindlessly punching buttons!

### 7.3 Did I Say Get a Calculator You Can Actually Use?

I still remember grading an exam problem that involved a bit of computation something like

\[
\frac{8.17}{19124}
\]

For this bit of arithmetic, the student wrote 4.27, - despite the quotient quite clearly being between 0 and 1.

"Gosh, I don't know, ...", the student said later, "...that's what my calculator gave me!"

Her calculator display showed 4.272, and over on the right side of the display, "E-4; indicating that in scientific notation the result was

\[
4.272 \times 10^{-4} \quad (1)
\]

Unfortunately, the student had no idea the calculator gave the option to display results in scientific notation; - , and, indeed remembered nothing about scientific notation!
8 Advice about Take Home Assignments

1. Fasten all your pages together! Staples, paper clips, quarter inch iron rivets – doesn’t matter. Constantly coming to class with loose pages and expecting a stapler to be available annoys crabby, old professors. We will not discuss the creative origami some students do at the top of the stack of pages....

2. Do not scatter or crowd your work. If you really can’t afford paper, let me know....

3. Don’t write what you don’t mean, e.g.

\[ 4 = \sqrt{4} = 2 \]

instead of

\[ w^2 = 4 \]

and, then, since \( w \) is positive

\[ w = 2 \]

4. Write legibly.

9 General Advice

1. There’s no replacement for showing up! This is not a readings class. Make a friend in class: if you do have to miss a class, a flesh and blood person is better than the internet for finding out what was discussed.

2. Know the definitions and terminology. If one doesn’t know the basic definitions and terminology, one can’t pose a reasonable question, never mind get a reasonable answer.

3. Don’t get behind in your preparation. The subject matter is cumulative in nature: new ideas always build on previous ideas; so if you haven’t studied what came before, of course, one will be lost.

4. Ask questions; participate in class discussions.

5. The relationship between teacher is not an adversarial one: we’re in this together. I very much want you to succeed and learn all you can!