



MATH 120

Introduction to Statistics

MWF 8-8:50AM

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SYLLABUS



COURSE REQUIREMENTS

- Regular homework.
- Daily attendance.
- 3 exams and a final exam.
- Quiz on Misleading statistical graphs.
- Quiz on journal articles that use inferential statistics.

COURSE POLICIES

- Attendance Policy:
 - For educational leniency, inform me and make arrangements at least two days before the absence.
 - Otherwise, I allow 3 absences from class without penalty. After that, a 1% penalty in the final grade per absence.

COURSE POLICIES

- Exam Policy:
 - For educational leniency, arrange make up exam and take it **before** the scheduled exam date.
 - For other reasons (with documentation), arrange and take make up exam **within a week** of the scheduled exam date.
 - Forms of documentation: antibiotic prescription, note from doctor, email from ONU Health services, etc.
 - Make up exams will not be the same as the original exam.

COURSE POLICIES

- Assignments:
 - Regular homework is assigned.
 - Homework is done on Canvas.
 - **Homework will not be accepted after the window on Canvas has ended.**

HELP and TUTORING

- Math Help Lab:
 - Burke 012
 - The hours are posted on the door.
 - Students who are very knowledgeable will be there to assist you with any problems you may have.
- I check my email daily and can help before or after class. However, I am an adjunct and have no official office hours.



INTRODUCTION ACTIVITY



ACTIVITY

- Let's look at the following scenario:
 - We are labor and delivery nurses.
 - Some of us want to work when it is busy (we love to see new babies). Some of us want to work when it is slow (we don't want to feel rushed).
 - Some of us are working on scheduling. We want to know when to schedule more/less nurses.

ACTIVITY

- How can we find out this information?
 - Let's start by deciding to look at births by the day of the week.
 - We will 'sample' some of our classmates and find out what day of the week each of them were born.
 - I will tabulate the 'data' we collect on the board in a 'frequency distribution table'.
 - We can find out the day of the week here:
 - <http://www.onlineconversion.com/dayborn.htm>

ACTIVITY

- Before looking at the results:
 - What do you expect?
 - More/less births on certain days.
 - Equal number of births each day.

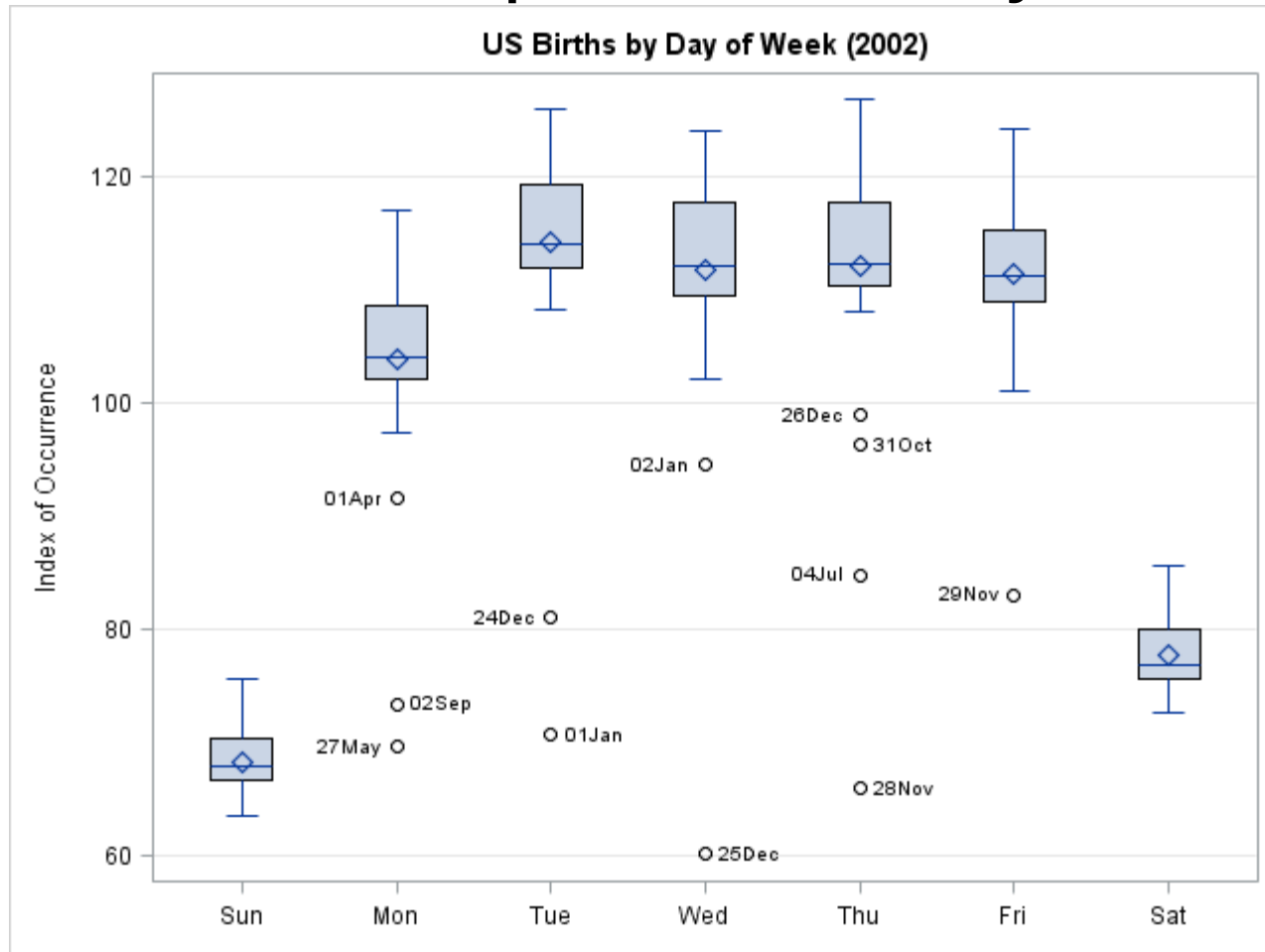


ACTIVITY

- After looking at the results:
 - ☐ Is this what you expected?
 - ☐ Why do you think we found these results?
 - ☐ Do you think it would help to increase our 'sample'?
 - ☐ How could we go about doing that?
 - ☐ Has someone done this research before?
 - ☐ Can we compare our results to theirs?

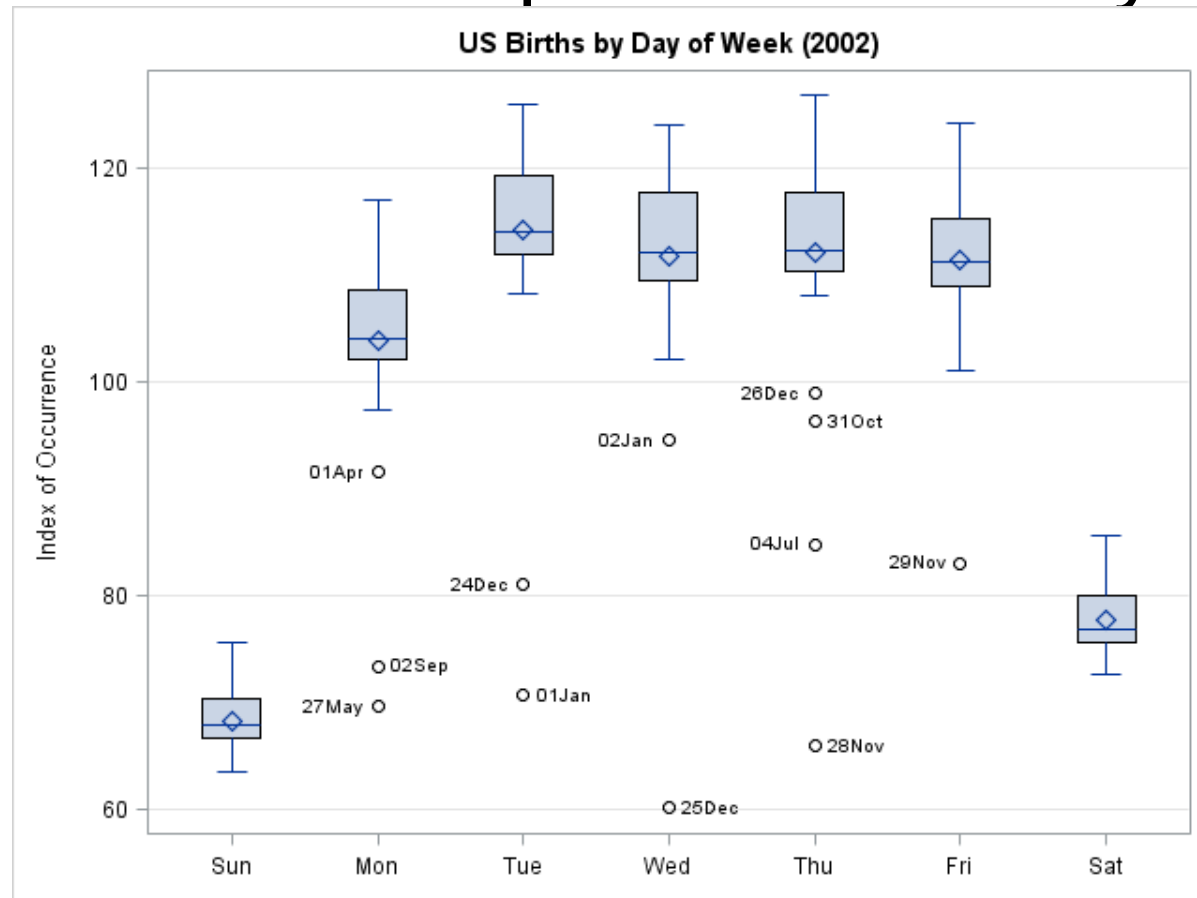
ACTIVITY

- Results from a previous study:



ACTIVITY

- What does this 'box & whisker plot' show?
- How does it compare to our analysis?





ACTIVITY

- Is there a way for us to definitively show that there is a significant difference in births by day of the week?
- Is there a way for us to definitively show that our research is the same/different than what was found before?
- We will answer these and many more questions in the weeks to come...

PRETEST/ALGEBRA REVIEW

- You will need to know & have algebra skills in order to be successful in this course.
- Solve the following for X .

a) $3 + 5X = 15$

b) $mX + b = Y$

PRETEST/ALGEBRA REVIEW

- Solve the following for X .

c) $\frac{(X - 4)}{3} = 7$

e) $X^2 = 16$

d) $\frac{(X - a)}{b} = Z$

f) $\sqrt{X} = 9$

PRETEST/ALGEBRA REVIEW

- You will need to be familiar with using your calculator in this course.
- Use your calculator to perform the following operations. Leave your answers in decimal form.

a) $\frac{(2 + 4 + 1 + 6 + 7)}{5} =$

b) $(2 - 4)^2 + (4 - 4)^2 + (1 - 4)^2 + (6 - 4)^2 + (7 - 4)^2 =$

PRETEST/ALGEBRA REVIEW

- Use your calculator to perform the following operations. Leave your answers in decimal form.

c) $\sqrt{\frac{26}{4}} =$

d) $\frac{1}{16} + \frac{1}{20} =$

e) $4 + 2.776\left(\frac{2.55}{\sqrt{5}}\right)$