

## Useful links:

### **Sampling- Independence sample mean and sample variance (under Normality)**

[http://www2.stat.duke.edu/courses/Fall18/sta611.01/Lecture/lec12\\_mean\\_var\\_indep.pdf](http://www2.stat.duke.edu/courses/Fall18/sta611.01/Lecture/lec12_mean_var_indep.pdf)

### **Sufficiency**

<http://math.furman.edu/~dcs/courses/math47/lectures/lecture-7.pdf>

### **Fisher matrix**

From the homepage of Jakub M. Tomczak

[http://www.ii.pwr.wroc.pl/~tomczak/PDF/\[JMT\]Fisher\\_inf.pdf](http://www.ii.pwr.wroc.pl/~tomczak/PDF/[JMT]Fisher_inf.pdf)

### **Application**

#### **Newton-Raphson algorithm**

From the homepage of Steffen Lauritzen- useful course materials

<http://www.stats.ox.ac.uk/~steffen/teaching/bs2HT9/scoring.pdf>

### **Cramer Rao inequality**

[https://web.williams.edu/Mathematics/sjmillier/public\\_html/BrownClasses/162/Handouts/CramerRaoHandout08.pdf](https://web.williams.edu/Mathematics/sjmillier/public_html/BrownClasses/162/Handouts/CramerRaoHandout08.pdf)

### **Neyman Pearson Lemma**

For a proof of the theorem : homepage of Dan Sloughter

<http://math.furman.edu/~dcs/courses/math47/lectures/lecture-28.pdf>

<http://math.furman.edu/~dcs/courses/math47/lectures/lecture-29.pdf>

From homepage of Tony O'Hagan

<http://www.tonyohagan.co.uk/>

<http://www.tonyohagan.co.uk/academic/teaching/Lec17.pdf>

<http://www.tonyohagan.co.uk/academic/teaching/Lec16.pdf>

### **Similar Courses Website**

<https://ocw.mit.edu/courses/economics/14-381-statistical-method-in-economics-fall-2018/>

<https://ocw.mit.edu/courses/18-655-mathematical-statistics-spring-2016/>

<https://ocw.mit.edu/courses/1-151-probability-and-statistics-in-engineering-spring-2005/>

<http://www.stats.ox.ac.uk/~steffen/teaching/bs2HT9/overview.htm>

<http://math.furman.edu/~dcs/courses/math47/>

[http://web.williams.edu/Mathematics/sjmillr/public\\_html/BrownClasses/162/](http://web.williams.edu/Mathematics/sjmillr/public_html/BrownClasses/162/)

<http://people.missouristate.edu/songfengzheng/Teaching/MTH541F21.htm>

## **Exercises**

<http://www.stats.ox.ac.uk/~steffen/teaching/bs2HT9/siclasses.htm>