

# Course Outline STA347H1

from the private notebook  
of  
David Brenner

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office: Wed 3-4

**lectures:**

Wed 1-2	BR 200
Fri 1-3	ditto

**ref./text:**

Brenner, David :  
FROM THE PRIVATE NOTE BOOK OF  
Illustrated adventures in very (very) mathematical  
stochastic modelling & statistical inference, 2004-24

Ash, Robert B. :  
BASIC PROB THEORY (1970/2008)

Ross, Sheldon M. :  
INTRO TO PROB MODELS (1972/2019)

Grimmett, Geoffrey & Stirzaker, David :  
PROBABILITY & RANDOM PROCESSES (1982/2020)

**topics:**

*caution:* all contents subject to shuffling, merging, expansion  
& (really serious) modification

- probability, expectation & the LLN;  
the CLT & slusky
- the elementary distributions of statistical practice;  
binomial, poisson and gaussian processes
- the (extremely) general linear model:  
means, variances, correlation & regression;  
conditional expectation & the bayes theorem
- moment generating functions, characteristic functions  
& the multivariate normal
- probability generating functions, random walks, markov  
chains, markov processes and martingales

**grading ( $G$ ) :**

test ( $T$ ) = 40 - Fri. Feb. 16

final ( $F$ ) = 60 - Apr. 10-30

$$G = T + F$$

$\left( \begin{array}{l} \text{NOTES: (1) Test } T \text{ during class time, in class room.} \\ \text{(2) If } T \text{ missed, then } G = F = 100. \end{array} \right)$