

# Course Outline STA2112F/452H1

from the private notebook  
of  
David Brenner

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**lectures:**

Wed 10-12, Fri 10-11

**ref./text:**

Brenner, D. :  
FROM THE PRIVATE NOTE BOOK OF  
Illustrated adventures in very (very) mathematical  
stochastic modelling & statistical inference, 2004-19

Fraser, D.A.S. :  
PROB & STATS: THRY & APPS (1976/2002/8)

Knight, K. :  
MATH STATS (2000)

Lehmann, E.L. :  
TESTING STAT HYPs (1957/86) & THRY of PT EST (1986)

Silvey, D.F. :  
STAT INF (1976)

**topics:**

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

- the multivariate distributions of common statistical practice
- probability, expectation & the LLN
- stochastic convergence: weak and strong
- the general linear model: correlation & regression, conditional expectation & bayes' theorem
- characteristic functions, rotational invariance & the cràmer-wold device
- order statistics & permutation invariance

**grading ( $G$ ) :**

test ( $T$ ) = 40 - Wed. Oct. 30

final ( $F$ ) = 60 - Dec. 7-20

$$G = T + F$$

(NOTE: test  $T$  will be held during class time.)