1   Logic

$A = \{ x \mid P(x) \}$	\set	set builder notation
$a \in A$	\in	belongs
$A \cup B$	\cup	set union
$A \cap B$	\cap	set intersection

2   Probability

$\Pr(\cdot)$	\Pr	probability
$E(\cdot)$	\E	expectation
$E(\cdot|\cdot)$	\E(|)	conditional expectation
$var(\cdot)$	\var	variance (matrix)
$cov(\cdot, \cdot)$	\cov	covariance (matrix)
$corr(\cdot, \cdot)$	\corr	correlation (matrix)

3   Inference

$\sim$	\distr	is distributed as
$\overset{a}{\sim}$	\adistr	is asymptotically distributed as
$L(\boldsymbol{\theta})$	\L(\vtheta)	likelihood function
$\ell(\boldsymbol{\theta})$	\ell	log-likelihood function
$\boldsymbol{\mathcal{H}}(\boldsymbol{\theta})$	\Hesmat	Hessian matrix
$\boldsymbol{\mathcal{I}}$	\Infmat	(Fisher) information matrix
$\overset{p}{\longrightarrow}$	\pto	converges in probability
$\overset{d}{\longrightarrow}$	\dto	converges in distribution
plim	\plim	probability limit

4   Matrix Algebra

$\boldsymbol{a}$	\va	vector
$\boldsymbol{\beta}$	\vbeta	vector with greek letter
$\boldsymbol{A}$	\mA	matrix
$\boldsymbol{\Omega}$	\mOmega	matrix with greek letter

5   Calculus

$\frac{df}{dx}$	\set	first derivative
$\frac{d^2 f}{dx^2}$	\set	first derivative
$\frac{\partial f}{\partial x}$	\set	first derivative
$\frac{\partial^2 f}{\partial x^2}$	\set	first derivative
$\frac{\partial^2 f}{\partial x \, \partial x}$	\set	first derivative