BCA STUDENT RESOURCES – TEXTBOOKS AND SOFTWARE GUIDE

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A few notes about your distance education requirements

The BCA program is delivered by distance means. Access to a computer and the internet are essential study requirements.

An online learning management system (eLearning, trade name Canvas) is the main teaching tool. It is used for a variety of functions, including as an access point for study notes and materials, and importantly for people studying by distance, a communication tool for student/student and student coordinator discussions. Hard copy materials may also be sent by post. Email is also used on occasion, particularly as the first point of contact from the BCA coordinating office and unit coordinators.

See page 6 for a full listing of software requirements per unit of study. At least one of the listed Software packages is required for most units. Stata and/or R are used in a number of units, and R and Stata are compulsory for the unit Data Management and Statistical Computing [DMC].

Where textbooks are compulsory for particular units, they are listed in the tables below. Some strongly recommended texts are also listed.

Please note that it's important to buy study resources as soon as possible.

As most students will be buying textbooks remotely, there are likely to be delays while materials are posted and in some cases, shipped. When buying books online, you should check whether publishers/retailers are in your home country or, if not, ship to it. Where available, you may find eBook versions. In the case of software.

More resources are available in Student Resources on the BCA website, including the BCA Program Outline which contains further details about the curriculum, unit of study content, pre/co-requisites, study requirements and delivery centres.

Unit coordinators are listed here.
<table>
<thead>
<tr>
<th>UNIT of study</th>
<th>Title</th>
<th>Version</th>
<th>Compulsory / recommended</th>
<th>Author/s</th>
<th>Publisher</th>
<th>Year</th>
<th>ISBN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology (EPI)</td>
<td>See note: 7, p4</td>
<td></td>
<td>As prescribed by university</td>
<td>See note: 7, p4 for details of compulsory text for EPI at The University of Queensland.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Mathematical Background for Biostatistics (MBB) | **Calculation Early Transcendentals**  
  See note 2.1, p 4 for edition advice & Student Companion Site  
  **Elementary Linear Algebra**  
  **OR...**  
| Data Management & Statistical Computing (DMC) | **R:** Introductory Statistics with R  
  **Stata:** An Introduction to Stata for Health Researchers  
| Probability & Distribution Theory (PDT) | **Mathematical Statistics with Applications**  
  (DO NOT BUY THE INTERNATIONAL EDITION)  
| Health Indicators & Health Surveys (HIS) | **Sampling of Populations:** Methods and Applications | 4th edition | compulsory | Paul S. Levy, Stanley Lemeshow | Wiley Interscience       | 2008    | 9780470040072         |
| Survival Analysis (SVA)          | **Applied Survival Analysis**  
| Principles of Statistical Inference (PSI) | **An Introduction to Survival Analysis Using Stata**  
<p>| Longitudinal &amp; Correlated Data (LCD) | <strong>Applied Longitudinal Analysis</strong> | 2nd edition | recommended | Fitzmaurice G, Laird N, Ware J | John Wiley and Sons    | 2011    | 9780470380277         |</p>
<table>
<thead>
<tr>
<th>UNIT of Study</th>
<th>Title</th>
<th>Version</th>
<th>Compulsory / recommended</th>
<th>Author/s</th>
<th>Publisher</th>
<th>Year</th>
<th>ISBN</th>
</tr>
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<tbody>
<tr>
<td>Epidemiology (EPI)</td>
<td>See note: 7, p4</td>
<td></td>
<td>As prescribed by university</td>
<td>See note: 7, p4 for details of compulsory text for EPI at The University of Queensland.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elementary Linear Algebra See note 2.2 p4 for edition advice OR...</td>
<td>11th edition</td>
<td>compulsory</td>
<td>Anton, Howard</td>
<td>Wiley</td>
<td>2013</td>
<td>9781118473504</td>
</tr>
<tr>
<td></td>
<td>R: Introductory Statistics with R</td>
<td>2nd edition</td>
<td>compulsory</td>
<td>Peter Dalgaard</td>
<td>Springe</td>
<td>2008</td>
<td>9780387790534</td>
</tr>
<tr>
<td></td>
<td>Stata: An Introduction to Stata for Health Researchers See note 3.2, p4</td>
<td>4th edition</td>
<td>compulsory</td>
<td>Svend Juul, Morten Frydenberg</td>
<td>Stata Press</td>
<td>2014</td>
<td>9781597181358</td>
</tr>
<tr>
<td></td>
<td>Probability &amp; Distribution Theory (PDT) See note 4, p 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(ENSURE YOU BUY THIS ISBN) See note 4, p 4</td>
</tr>
<tr>
<td>Design of Randomised Controlled Trials (DES)</td>
<td>Introduction to Randomized Controlled Clinical Trials</td>
<td>2nd edition</td>
<td>compulsory</td>
<td>Matthews JNS</td>
<td>Chapman and Hall / CRC Press</td>
<td>2006</td>
<td>P/back: 9781584886242</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>eBook: 9781420011302</td>
</tr>
<tr>
<td>Categorical Data &amp; GLMs (CDA)</td>
<td>See note: 1, p4</td>
<td></td>
<td>No compulsory text book</td>
<td></td>
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</tbody>
</table>
TEXTBOOKS – notes to the tables on pages 2 and 3 (see pictures of books and supplier notes on page 5)

1. 'Recommended' textbook listings: Some recommended references are listed above. Other texts may be recommended in Study Guides provided by unit coordinators.

2. MBB textbooks:
   
   2.1 Calculus Early Transcendentals, 11th Edition, Anton et al.
   
   There are a number of similar editions. Be sure to search by the ISBN number. See the entries for this book on pages 2 and 3.
   
   It can be found on the companion website, Australian distributor. It is also available from university bookshops, from Jacaranda Wiley Ltd (1800 777 474) or online from booktopia.com.au or fishpond.com.au or amazon.com or via www.addall.com.
   
   Be sure you have the correct version: the ISBN identifies the right one.

   2.2 Elementary Linear Algebra
   
   There are two versions of this textbook, the standard one and the "Application version". We will use the former (ISBN: 9781118473504) and will not need the latter, but you can buy the one you prefer. The only difference is that the "Applications Version" has additional material at the end that we do not use. The first part is common to both versions, so the paragraph and the exercise numbers are the same. As a further note, the eText referenced on pp2 and 3 is only available as "Application version" (hardcover ISBN: 9781118473504; ISBN: eText ISBN: 9781118878767).
   
   Australian distributor
   
   It is also available from university bookshops, from Jacaranda Wiley Ltd (1800 777 474) or online from fishpond.com.au or amazon.com or via www.addall.com.
   
   If you want the cheapest price, be sure you buy the correct version, not "Applications Version". The ISBN identifies the right ones.

   If buying textbooks directly from Wiley, please note that the ISBN numbers may have been changed (same version with some additional WileyPlus features). WileyPlus versions are ok to purchase but the bonus WP online features in these additions are not relevant for BCA MBB.

3. DMC textbooks and software: If you have not used R or Stata previously, it is recommended that you have access to the text for the relevant software.

   3.i R textbook
   
   DMC: Introductory Statistics with R.
   
   A free download of this text should be available to University students.

   3.ii Buy Stata text books from Stata Bookstore.
   
   DMC: An Introduction to Stata for Health Researchers
   
   SVA: Applied Survival Analysis
   
   An Introduction to Survival Analysis Using Stata
   
   Stata Software compatibility: DMC has a minimum requirement of Stata version 13, with 15 or 16 preferred.

4. PDT textbook: There are multiple printings of this textbook, each with a different ISBN. Make sure you purchase the textbook with the designated ISBN. "International" editions have been published outside of the US. These editions do not correspond to study note references. There are multiple versions and page numbers are different in each version, and questions are not numbered in the same order.

5. BAY textbook: Note: Students will be able to do BAY provided they have a copy of either the 2nd Edition or 3rd Edition of Bayesian Data Analysis. If they have neither they should buy the 3rd Edition. BAY is not offered in 2019.

6. SGX textbook: This is an expensive reference that few will be able to buy, but online access should be available through your university library; if not, arrangements will be made by unit coordinators.

BUYING TEXTBOOKS

Compulsory texts

<table>
<thead>
<tr>
<th>MBB</th>
<th>DMC: R</th>
<th>PDT</th>
<th>PSI</th>
<th>DES</th>
<th>SVA</th>
<th>HIS</th>
<th>BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Transcendentals</td>
<td>Elementary Linear Algebra</td>
<td><em>Stata</em></td>
<td>Mathematical Statistics with Applications</td>
<td>An Introduction to Stata for Health Researchers</td>
<td>Information Principles for Biostatisticians</td>
<td>Applied Survival Analysis</td>
<td>Sampling of Populations: Theory and Methods</td>
</tr>
</tbody>
</table>

CO-OP BOOKSHOP: If you are unable to buy compulsory books locally, you can order them (except Stata Press books*) through the Co-op Bookshop website. *Hard copies of all compulsory textbooks are ordered for the current semester. E-Texts are not stocked by the Co-op.*

Order online at www.coop.com.au
To find a book in the Coop site, click on the Textbook Search button; in the Step 1 field, choose Biostatistics Collaboration of Australia (BCA); in Step 2, choose the relevant semester; and in Step 3, select the relevant BCA unit name (each unit name will be prefaced with a University of Sydney [BSTA] code, for USyd student and Coop Bookshop reference only).

Discounts for members vary between 5-10%. Apply on the CO-OP website.

Coop Bookshop contact: Academic Sales
02- 8935 8260  academicsales.sydney@coop.com.au
(When making enquiries to the shop, quote the BCA unit ID [eg MBB], not the university one, as their orders are listed by these generic IDs to suit the inter-university student cohort.)

OTHER SUPPLIERS: If you are unable to find the book locally or via the Co-op Bookshop, suppliers can be found online by doing a search on the ISBN number. Some suggested sources are listed below.

Amazon is a reliable source: Textbooks
If you are willing to pay $35 USD you can get books couriered in about 3-4 days. Second-hand copies are often listed.

DA Information Services in Melbourne: www.dadirect.com.au Books have not been ordered by the BCA from these suppliers but may have been by Melbourne Universities.

2ND-HAND BOOKS: Abe Books
This site has a good international cooperative textbook exchange.

SEARCHING FOR BOOKS ONLINE: Using the ISBN number to do a search is generally the quickest route and, where multiple editions exist, also the safest. ISBN numbers are listed in the far right-hand column of the tables on pages 2 and 3 of this Guide. Tip: If possible, order from suppliers that have an outlet in your home country as this will reduce postage times.

EBOOK VERSIONS of some textbooks are available. Even if you’d prefer to have a hardcopy, the (possibly) cheaper and more immediately available “e” version may be useful to fill the gap while you are waiting for the hard copy to arrive in the mail.

You can also check for eBook availability at the library of your home university.

Note that free ‘trial’ copies available from some suppliers may only contain extracts of the contents. Use the ISBN to search online for the latest releases.

* Stata Press textbooks are available from surveydesign.com.au/statabooks.html or by calling 02 6247 0177
SOFTWARE REQUIREMENTS per unit of study

NB: Most units will accept R use, and provide guidance/code in the unit materials. More detailed notes will be provided in unit Study Guides.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Software</th>
<th>ACCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology (EPI)</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Mathematical Background for Biostatistics (MBB)</td>
<td>WolframAlpha used in this unit. There are no other software requirements.</td>
<td></td>
</tr>
<tr>
<td>Probability &amp; Distribution Theory (PDT)</td>
<td>Stata</td>
<td>Access to Stata</td>
</tr>
<tr>
<td>Health Indicators &amp; Health Surveys (HIS)</td>
<td>R or Stata, Excel</td>
<td>Access to R</td>
</tr>
<tr>
<td>Data Management &amp; Statistical Computing (DMC)</td>
<td>Stata and R</td>
<td>Support for software in units of study</td>
</tr>
<tr>
<td>DMC students please note: you will need R and Stata. Introductory modules on these packages are a compulsory element of the unit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principles of Statistical Inference (PSI)</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Clinical Biostatistics (CLB)</td>
<td>Stata</td>
<td></td>
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<tr>
<td>Design of Randomised Controlled Trials (DES)</td>
<td>Stata</td>
<td></td>
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<tr>
<td>Linear Models (LMR)</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Categorical Data &amp; GLMs (CDA)</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Survival Analysis (SVA)</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Statistical Genomics (SGX)</td>
<td>R freeware will be downloaded</td>
<td></td>
</tr>
<tr>
<td>Longitudinal &amp; Correlated Data (LCD)*</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Bayesian Statistical Methods (BAY)</td>
<td>Microsoft Excel, Stata, or R (for simple simulations) and Stan (mc-van.org) for model fitting using MCMC routines.</td>
<td></td>
</tr>
<tr>
<td>Bioinformatics and Statistical Genomics (SGX)</td>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>
BUYING STATA FOR BCA UNITS OF STUDY

You will need to buy Stata directly from the supplier, available to students at heavily discounted prices. Place your order via the Survey Design website.

Options and prices for student download licences are available on the website.

The BCA recommendation is for the first option, Stata/IC. Students are likely to be using the software for at least 3 years so they should buy the perpetual edition. The current version is Stata v16.

Stata/IC – suitable for medium size datasets
Available as
- 6 month expiring edition
- 12 month expiring edition
- Perpetual edition*

Stata/SE – suitable for large datasets
- 6 month expiring edition
- 12 month expiring edition
- Perpetual edition*

Stata/MP2 – for those wanting faster processing
- 12 month expiring edition
- Perpetual edition*

Stata/MP4 – for fast processing of complex analyses
- 12 month expiring edition
- Perpetual edition*

* Perpetual licences never expire. You can use them forever.

Note that many computers available on the market today have dual core or quad core processors and can effectively make use of Stata/MP2 or Stata/MP4 for fast analysis of large datasets.

The current release of Stata will run on Windows, Apple OSX and Linux operating systems. Typical delivery of software is via download only, although you can order a DVD for an extra charge if you wish. Each licence comes with 16,000+ pages of manual documentation in 26 volumes, provided in a PDF format.

With a Stata student licence you may upload the Stata software on up to three (3) of your own computers, regardless of operating system, for your own personal use. These licences cannot be shared.

Please note:

- To purchase Stata at these discounted prices you must use your university email address to order the software and quote your student number. The software will be delivered following receipt of payment. It will be delivered to your quoted university email address.
- Payment must be made at the time of placing the order on the website. Payment options available are Direct Deposit, Credit Card payment over the telephone, credit card via PayPal or PayPal.
- Prices include 10% GST and are subject to change without notice.