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 Blackboard) 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 are also sent by post but you may experience delays in receiving these “study bricks” as new enrolments at universities may not be registered until after the semester start date. Email is also used on occasion, particularly as the first point of contact from the BCA coordinating office and unit coordinators.

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

At least one of the Software packages Stata, SAS or Excel is required for most units. Stata is used in a number of units, and SAS and Stata are compulsory for the units Data Management and Statistical Computing [DMC] and Longitudinal and Correlated Data (LCD). See page 7 for a full listing of software requirements per unit of study.

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

As most students will be buying textbooks and software remotely (from suppliers or home universities), there are likely to be delays while licenses are arranged (for some software) and 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 useful, especially if you are starting late or you travel a lot. More resources are available on the BCA website at www.bca.edu.au/currentstudents.html, including the BCA Program Outline which contains further details about the curriculum, unit of study content, pre/co-requisites, study requirements and delivery centres.
## BCA TEXTBOOKS semester 1 - list per unit of study

See pages 4 and 5 for notes on texts. These will help identify correct versions and list companion sites.

<table>
<thead>
<tr>
<th>UNIT of study</th>
<th>Unit Coordinator/s</th>
<th>Sem</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>Dependent on university</td>
<td>1 &amp; 2</td>
<td>See note: 9, p4</td>
<td></td>
<td>As prescribed by university</td>
<td>See note: 9, p4 for details of compulsory text for EPI at The University of Queensland.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Elementary Linear Algebra See note 2, p4 for Student Companion Site</td>
<td>11th edition</td>
<td>compulsory</td>
<td>Anton, Howard</td>
<td>Wiley</td>
<td>2013</td>
<td>9781118473504</td>
</tr>
<tr>
<td>Survival Analysis (SVA)</td>
<td>Ken Beath (Macquarie)</td>
<td>1</td>
<td>Applied Survival Analysis</td>
<td>2nd edition</td>
<td>compulsory</td>
<td>Hosmer D.W., Lemeshow S., May S.</td>
<td>Wiley Interscience</td>
<td>2008</td>
<td>9780471754992</td>
</tr>
<tr>
<td>Principles of Statistical Inference (PSI)</td>
<td>Liz Barnes (USyd NHMRC CTC)</td>
<td>1 &amp; 2</td>
<td>Inference Principles for Biostatisticians See note 10, p4</td>
<td>1st edition</td>
<td>Recommended</td>
<td>Ian C. Marschner</td>
<td>Chapman &amp; Hall / CRC Pr</td>
<td>2014</td>
<td>9781482222234</td>
</tr>
<tr>
<td>Longitudinal &amp; Correlated Data (LCD)</td>
<td>Andrew Forbes (Monash) / John Carlin (UMelb)</td>
<td>1</td>
<td>Applied Longitudinal Analysis</td>
<td></td>
<td>recommended</td>
<td>Fitzmaurice G, Laird N, Ware J</td>
<td>John Wiley and Sons</td>
<td>2004</td>
<td>9780471214878</td>
</tr>
<tr>
<td>UNIT OF STUDY DETAILS</td>
<td>TEXT BOOK DETAILS</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>UNIT of Study</strong></td>
<td><strong>Unit Coordinator/s</strong></td>
<td><strong>Sem</strong></td>
<td><strong>Title</strong></td>
<td><strong>Version</strong></td>
<td><strong>Compulsory or recommended</strong></td>
<td><strong>Author/s</strong></td>
<td><strong>Publisher</strong></td>
<td><strong>Year</strong></td>
<td><strong>ISBN</strong></td>
</tr>
<tr>
<td>Epidemiology (EPI)</td>
<td>Dependent on university</td>
<td>1 &amp; 2</td>
<td>See note: 9, p4</td>
<td>As prescribed by university</td>
<td>See note: 9, p4 for details of compulsory text for EPI at The University of Queensland.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematical Background for Biostatistics (MBB)</td>
<td>Maurizio Manuguerra (Macquarie)</td>
<td>1 &amp; 2</td>
<td>Calculus Early Transcendentals</td>
<td>10th edition</td>
<td>compulsory</td>
<td>Anton H, Bivens I, Davis S</td>
<td>Wiley</td>
<td>2012</td>
<td>978111288092</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Elementary Linear Algebra</td>
<td>11th edition</td>
<td>compulsory</td>
<td>Anton, Howard</td>
<td>Wiley</td>
<td>2014</td>
<td>978118473504</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stata: A short Introduction to Stata for Biostatistics (updated for Stata 12)</td>
<td>2012</td>
<td>compulsory if you have not used Stata previously</td>
<td>Hills M &amp; De Stavola B</td>
<td>978-0-9571708-0-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inference Principles for Biostatisticians</td>
<td>1st edition</td>
<td>compulsory</td>
<td>Ian C. Marschner</td>
<td>Chapman &amp; Hall / CRC Pr</td>
<td>2014</td>
<td>9781482222234</td>
</tr>
<tr>
<td>Design of Randomised Controlled Trials (DES)</td>
<td>Amy Salter (Adelaide)</td>
<td>2</td>
<td>Clinical Trials A Methodologic Perspective</td>
<td>2nd edition</td>
<td>compulsory</td>
<td>Plantadosi S</td>
<td>Wiley</td>
<td>2005</td>
<td>9780471727811</td>
</tr>
<tr>
<td>Categorical Data &amp; GLMs (CDA)</td>
<td>Mark Jones (UQ)</td>
<td>2</td>
<td>See note: 1, p4</td>
<td>No compulsory text book</td>
<td></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. **Not compulsory textbook listings:** recommended references are listed in the current BCA Program Outline and unit Study Guides provided by unit coordinators.

2. **MBB textbooks:**
   - *Calculus Early Transcendentals, 10th 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.
   - **OR,** if buying direct from Wiley, please note that the ISBN numbers may have been changed (same version with some additional WileyPlus features): If not available at [this link](#) insert “Calculus: Early Transcendentals, 10th Edition” in the search field on the Wiley website.
     - **Note:** WileyPlus versions are ok to purchase but the bonus WP online features in these additions are not required for BCA MBB.

   **Student companion sites:**
   - *Calculus Early Transcendentals, 10th Edition*
   - *Elementary Linear Algebra*
     Note that the book *Elementary Linear Algebra: Applications*, also published by Wiley, is identical to the listed text, except that it contains an additional chapter (meaning that it costs more).

3. **DMC textbooks and software:** If you have not used SAS or Stata previously, it is recommended that you have access to the text for the relevant software.
     - There is also a 4th edition widely available, ISBN 978-0137436422. This book is OK for use in DMC.
   - **3.ii Stata books:**
     - If you already have Stata 13 or 12, you may use:
     - If you already have Stata 11, you may use:

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.


6. **BAY textbook:** 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.

7. **LMR textbook** (recommended only): Note that this book is now out of print. New and used copies can be bought on various sites, such as Amazon, Abe books or Fishpond. **Do not buy the international version.**

8. **DES textbook:** This book is required for the unit. However, not all chapters are referred to. It is recommended that, in the first instance, you try to find it at your local or university library, or workplace.


10. **PSI textbook:** Publishers [website](#)
    - This book was first published in Dec 2014. It is **recommended** for SEMESTER 1, 2015 and **compulsory** for SEMESTER 2, 2015.
BUYING TEXTBOOKS

Compulsory texts

MBB

DMC:

HIS

SVA

DES

PDT

BAY

Early Transcendentals

Elementary Linear Algebra

SAS

Stata

Elementary Survey Sampling

Applied Survival Analysis

Clinical Trials

Mathematical Statistics

Bayesian Data Analysis

BIF

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. Copies of all compulsory textbooks are ordered for the current semester.

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 BCA; in Step 2, choose the relevant semester; and in Step 3, enter the relevant BCA unit code (eg MBB) or the relevant ISBN.

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 USyd 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: www.amazon.com

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.

Compare prices and delivery locations across vendors www.addall.com

STATA

Text book: please buy direct from Survey Design and Analysis Pty Ltd, at: http://survey-design.com.au or, if not available on this site, see: www.stata.com/bookstore/bios.html

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 real book, 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. Note that free ‘trial’ copies available from some suppliers may only contain extracts of the contents. Links to some eBooks are listed above, but new ones are appearing all the time, so use the ISBN to search online for the latest releases.

…and, of course, you can always see whether you can pick up a bargain on eBay.
SOFTWARE REQUIREMENTS per unit of study

Most units of study require the use of SAS or Stata statistical software packages. You will need to choose one or the other. If doing DMC and/or LCD, you will need both. If you don’t have the required software on your home computer, you will need to be able to access it somewhere for at least a few hours throughout the semester.

Both packages are used at various points throughout the BCA program. Stata is easier to get started with and is used in more of the units. SAS is only compulsory for DMC and LCD.

Place your software orders as soon as possible. You may need to buy SAS from the suppliers (see page 7 for details) and Stata must be bought from the distributors, and you will need to install the software. If buying from suppliers, they may need to order media from the US which can take at least 1 week to arrive at the company, prior to posting to students.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Software</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology (EPI)</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Mathematical Background for Biostatistics (MBB)</td>
<td>Excel or Stata</td>
<td></td>
</tr>
<tr>
<td>Probability &amp; Distribution Theory (PDT)</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Health Indicators &amp; Health Surveys (HIS)</td>
<td>SAS or Stata, Excel</td>
<td></td>
</tr>
<tr>
<td>Data Management &amp; Statistical Computing (DMC)</td>
<td>Stata and SAS</td>
<td>DMC students please note: you will need SAS and Stata. Introductory modules on these packages are a compulsory element of the unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See page 7 for information about how to obtain these packages (in the case of SAS, this is dependent on your home university) and pages 8 and 9 for purchasing information.</td>
</tr>
<tr>
<td>Principles of Statistical Inference (PSI)</td>
<td>Stata or SAS</td>
<td></td>
</tr>
<tr>
<td>Clinical Biostatistics (CLB)</td>
<td>Stata</td>
<td></td>
</tr>
<tr>
<td>Design of Randomised Controlled Trials (DES)</td>
<td>none</td>
<td></td>
</tr>
<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>Bioinformatics (BIF)</td>
<td>Freeware will be downloaded</td>
<td></td>
</tr>
<tr>
<td>Longitudinal &amp; Correlated Data (LCD)*</td>
<td>Stata and SAS</td>
<td></td>
</tr>
<tr>
<td>Bayesian Statistical Methods (BAY)</td>
<td>WinBUGS 1.4.3 and Excel or Stata</td>
<td></td>
</tr>
</tbody>
</table>

OPERATING SYSTEMS

Macintosh systems are not recommended.

Some of the listed packages do not support the Macintosh operating system. SAS is not compatible with the Mac OS.

SUPPORT FOR SOFTWARE IN UNITS OF STUDY

Unit coordinators may specify that students need to use either Stata or SAS or both for some, or all, of the unit. Software requirements are outlined in the unit description (as published in the BCA Program Outline and university handbooks). Further details may be provided in unit Study Guides. If both packages are required, information will be given on the extent to which help will be provided for each in the modules or sections in which they may be used. Generally one package will be recommended and supported while students may use another one if they choose, but are responsible for finding their own support for any difficulties they may encounter.

If you need further help, please contact the BCA coordinating office: (02) 9562 5076  bca@ctc.usyd.edu.au
OBTAINING SOFTWARE (see note about operating systems on the previous page)

SAS and Stata details listed are for education packages. These are considerably cheaper than the standard retail license fees. If buying software directly from suppliers, students should state that they are studying BCA courses.

<table>
<thead>
<tr>
<th>STATA</th>
<th>Microsoft Excel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to Stata</strong></td>
<td><strong>Excel is available in the Microsoft Office Package.</strong></td>
</tr>
<tr>
<td>You will need to buy the software directly from the distributors, Survey Design and Analysis Services</td>
<td><strong>R</strong></td>
</tr>
<tr>
<td><em>Guidelines for buying Stata can be found on page 8.</em></td>
<td>Students may use R if they are comfortable with this package. R, Stata and SAS code will be provided in study notes, where possible.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to SAS</strong></td>
<td></td>
</tr>
</tbody>
</table>
| - Students enrolled at the Universities of Adelaide, Monash, Newcastle and Queensland should buy SAS directly from the suppliers.  
  *Guidelines for buying Stata can be found on page 9.* | - The contacts at your university will tell you which version of SAS they will be distributing.  
  Please note:  
  - Version 9.3 will run on 32 and 64 bit systems, and it will run on XP, Vista and Windows 7 and Windows 8. It will NOT however run on the ‘Home’ version of most operating systems, and is not compatible with the Mac OS.  
  - Version 9.4 will only run on 64 bit systems,  
  - Note that license files for SAS must be updated annually.  
  - Further details about SAS can be found on page 9 of this Guide. |
| - Some consortium universities have site licenses and are able to provide SAS directly. SAS may be provided for free or a reduced fee. See the list of universities and contact details below. | |

The following people can be contacted at the listed universities to obtain SAS or renew licenses. They will provide access instructions.

### Contact at Macquarie University
A/Prof Gillian Heller  
02-9850 8541  
gillian.heller@mq.edu.au

### Contact at the University of Melbourne
Liz Dent  
03-8344 9339 (Tuesdays)  
e.dent@unimelb.edu.au

Prof John Carlin  
03-9345 6363, 03-8344 0733  
john.carlin@mcri.edu.au

### Contact at the University of Sydney
The software is free if you are enrolled in a BCA program at the University of Sydney, for the period of your enrolment. You will have to obtain a new license file annually to update the SAS system. To install SAS onto your PC, please email the above contact.

If you are unable to install SAS on your PC for some reason e.g. you do not have Windows 7 or 8, then USyd students can also access SAS [V 9.3 (TS1M2 Rev930 13w18)] remotely by going to this page and following the prompts. This option allows you to access SAS without needing to install SAS on your computer, but you will require a good internet connection. Note there is one minor difference to the instructions for SAS access. See here for guidelines.

Alternatively, if you can travel to the University of Sydney, 24-hour access to the Computing Lab in the Edward Ford building is available by an access card. To apply for this access, you need to complete a form, available from our Student Office, Room 329.
BUYING STATA FOR BCA UNITS OF STUDY

You will need to buy Stata directly from the suppliers. You can place your order via the Survey Design website at: www.survey-design.com.au

Prices

✔ Advanced GradPlan Stata/IC Stata 13 with perpetual license (for Windows, Mac or Linux). The options are:
  - DVD mailed option: AU$212 (+ postage)
  - Download options: AU$193
  - Both DVD mailed and download options: AU$242 (+ postage)

✔ Basic GradPlan Stata/IC Stata 13 - as above but with a one year license. The options are:
  - DVD mailed option: AU$122 (+ postage)
  - Download options: AU$103
  - Both DVD mailed and download options: AU$152 (+ postage)

✗ There is also a Small Stata option; however, this is limited to around 1,000 observations and is NOT suitable for BCA units.

Arrangements


The BCA courses are authorised for GradPlan, so you DO NOT need to supply permission from the course lecturer. On the order form you should note that you are enrolled in a BCA course, your student ID number, the university in which you are enrolled, and the operating system of the computer that you’ll be using.

Please note:

- All 11,000+ pages of documentation (in PDF format) come with each Stata purchase. This includes the Getting Started Manual.
- The listed prices were last updated in January 2014. The information should be up to date for 2014 but the BCA can’t guarantee this. When purchasing, please check the GradPlan prices on the Survey Design website.
BUYING SAS directly from the supplier

You may need to buy SAS from the supplier, if it is not supplied by your home university (see page 7 for details).

Obtaining SAS from your ‘home’ university

You may be able to obtain the SAS disks from your home university, see page 7 of this Guide for details. This is likely to be the most straightforward arrangement. Note, your university may charge a small fee for the disks.

Buying SAS from the supplier

If you are unable to obtain SAS at your home university, you can buy it directly from SAS Australia and New Zealand.

Cost: $99 for installation disks if obtained from SAS.

To order your disks and user licence:

1. Download the Purchase Order and Home Use Agreement forms
   NB: Forms are provided on the BCA Student Resources website, BCA staff are not, however, agents for the supplier and cannot provide technical support.

   Minimum requirement: SAS versions 9.3 or 9.4

   IMPORTANT – WHEN ORDERING
   - 9.4 will only run on 64 bit systems,
   - 9.3 is available in a 32 bit version. If you require this version, you must specify it on your order form.
   - Both versions will run on XP, Vista and Windows 7 and 8. They will NOT run on the ‘Home Basic’ version of most operating systems, but will run on ‘Home Premium’ versions of Windows 7 and 8 (under the newer Education Analytical Suite license).
   - If you are running Windows XP Home or lower, you will need to upgrade your operating system to Windows XP Professional or above so that you can run SAS versions 9.2, 9.3 or 9.4.
   - SAS is not compatible with the Mac OS, for installs on Mac OS please see the SAS Support note
   - Details for supported operating environments for Windows

2. Email scanned forms to SAS Academic Programs
   email: academic@oz.sas.com
   Or fax to: (02) 9428 4759
   You will be receiving access to the full version of SAS through the Home Use Agreement. SAS will provide your license and disks for you to upload.
   - You may only use the software for the purpose of completing BCA coursework.
   - You may not use the software for any commercial use.

   Note that the disks are shipped from the US and may take up to 10 working days for you to receive them, possibly longer, depending on your location. Please order your disks as early as possible.

   If you are having installation problems, contact the SAS Technical Support team: Support@oz.sas.com (02) 9428 0444.

   Alternatively, you can install SAS Foundation and Related Software using the step-by-step download instructions (The process is reasonably complex so unless you are comfortable with online downloads, you should use the disks.)

SID (SAS Installation Data) files must be updated annually.

To do this, send requests for the latest SID, filed to academic@oz.sas.com

Please do not amend the “SAS use only” dates on your Home Use Agreement form and send these to the supplier. SAS will not accept these amended forms.

Standard SAS software licence renewal process: The Product Authorisation Code notice period will cease 30 days after the licence renewal date.

Further information

The SAS Academic Club has been established for Academics, Students, University staff and other interested parties.