



## 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 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 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 is used in a number of units, and SAS and Stata are compulsory for the unit Data Management and Statistical Computing [DMC].

\* The LMS will be transitioned from *Blackboard* to *Canvas* in 2018.

**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, Stata and SAS are available to download online but you may need time to complete downloads and seek technical support where required.

**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](#).

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.									
UNIT OF STUDY DETAILS			TEXT BOOK DETAILS						
UNIT of study	Coop reference	BCA code	Title	Version	Compulsory / recommended	Author/s	Publisher	Year	ISBN
Epidemiology (EPI)	N/A	EPI	See note: 6, p4		As prescribed by university	See note: 6, p4 for details of <b>compulsory text for EPI at The University of Queensland.</b>			
Mathematical Background for Biostatistics (MBB)	BSTA5001	MBB	<b>Calculus Early Transcendentals</b> See note 2.1, p 4 for edition advice & Student Companion Site	11 <sup>th</sup> edition	<b>compulsory</b>	Anton H, Bivens I, Davis S	Wiley	2016	978-1-118-88382-2 E-Text: 9781118-884126
			<b>Elementary Linear Algebra</b> <b>OR...</b>	11 <sup>nd</sup> edition	<b>compulsory</b>	Anton, Howard	Wiley	2013	9781118473504
			<b>Elementary Linear Algebra: Applications Version</b>	11 <sup>nd</sup> edition		Anton H and Rorres C		2014	See note 2.2 p4
Data Management & Statistical Computing (DMC)	BSTA5004	DMC	<b>SAS:</b> <b>The Little SAS Book</b> See note 3.i, p 4	5 <sup>th</sup> edition	<b>Compulsory</b>	Lora D. Delwiche and Susan J. Slaughter	SAS Institute Inc.	2012	See note 3.i, p 4 for full list of ISBNs
			<b>Stata:</b> <b>An Introduction to Stata for Health Researchers</b> See note 3.ii, p 4		<b>compulsory</b>	Svend Juul, Morten Frydenberg	Stata Press	2014	9781597181358
Probability & Distribution Theory (PDT)	BSTA5023	PDT	<b>Mathematical Statistics with Applications (DO NOT BUY THE INTERNATIONAL EDITION )</b> See note 4, p 4	7 <sup>th</sup> edition	<b>compulsory</b>	Wackerly DD, Mendenhall W, Scheaffer RL	Brooks/Cole, Cengage Learning	2007	9780495110811
Health Indicators & Health Surveys (HIS)	BSTA5003	HIS	<b>Sampling of Populations: Methods and Applications</b>	4 <sup>th</sup> edition	<b>compulsory</b>	Paul S. Levy, Stanley Lemeshow	Wiley Interscience	2008	9780470040072
Survival Analysis (SVA)	BSTA5009	SVA	<b>Applied Survival Analysis</b> See note 3.ii, p 4	2 <sup>nd</sup> edition	<b>compulsory</b>	Hosmer D.W., Lemeshow S., May S.	Wiley Interscience	2008	9780471754992
			<b>An Introduction to Survival Analysis Using Stata</b>	3 <sup>rd</sup> edition	recommended	Cleves M, Gould W, Gutierrez R, Marchenko Y	Stata Press	2010	9781597180740
Principles of Statistical Inference (PSI)	BSTA5002	PSI	<b>Inference Principles for Biostatisticians</b>	1 <sup>st</sup> edition	<b>compulsory</b>	Marschner IC	Chapman & Hall / CRC Press	2014	9781482222234
Longitudinal & Correlated Data (LCD)	BSTA5012	LCD	Applied Longitudinal Analysis	2 <sup>nd</sup> edition	recommended	Fitzmaurice G, Laird N, Ware J	John Wiley and Sons	2011	9780470380277

**BCA TEXTBOOKS semester 2 - list per unit of study** See pages 4 and 5 for notes on texts. These will help identify correct versions and list companion sites.

UNIT OF STUDY DETAILS			TEXT BOOK DETAILS						
UNIT of Study	Coop B/shop reference	BCA code	Title	Version	Compulsory / recommended	Author/s	Publisher	Year	ISBN
Epidemiology (EPI)	N/A	EPI	See note: 6, p4		As prescribed by university	See note: 6, p4 for details of compulsory text for EPI at The University of Queensland.			
Mathematical Background for Biostatistics (MBB)	BSTA5001	MBB	Calculus Early Transcendentals See note 2.1 p4 for edition advice	11 <sup>th</sup> edition	compulsory	Anton H, Bivens I, Davis S	Wiley	2016	978111888382-2 E-Text: 9781118-884126
			Elementary Linear Algebra See note 2.2 p4 for edition advice OR...	11th edition	compulsory	Anton, Howard	Wiley	2013	9781118473504
			Elementary Linear Algebra: Applications Version	11th edition		Anton H and Rorres C		2014	See note 2.2 p4
Data Management & Statistical Computing (DMC)	BSTA5004	DMC	SAS: The Little SAS Book See note 3.i, p 4	5 <sup>th</sup> edition	Compulsory	Lora D. Delwiche and Susan J. Slaughter	SAS Institute Inc.	2012	See note 3.i, p 4 for full list of ISBNs
			Stata: An Introduction to Stata for Health Researchers See note 3.ii, p 4		compulsory	Svend Juul, Morten Frydenberg	Stata Press	2014	9781597181358
Probability & Distribution Theory (PDT)	BSTA5023	PDT	Mathematical Statistics with Applications (DO NOT BUY THE INTERNATIONAL EDITION ) See note 4, p 4	7 <sup>th</sup> edition	compulsory	Wackerly DD, Mendenhall W, Scheaffer RL	Brooks/Cole, Cengage Learning	2007	9780495110811
Principles of Statistical Inference (PSI)	BSTA5002	PSI	Inference Principles for Biostatisticians	1 <sup>st</sup> edition	compulsory	Ian C. Marschner	Chapman & Hall / CRC Press	2014	9781482222234
Design of Randomised Controlled Trials (DES)	BSTA5006	DES	Introduction to Randomized Controlled Clinical Trials	2 <sup>nd</sup> edition	compulsory	Matthews JNS	Chapman and Hall / CRC Press	2006	P/back: 9781584886242 eBook: 9781420011302
Categorical Data & GLMs (CDA)	N/A	CDA	See note: 1, p4		No compulsory text book				
Bayesian Statistical Methods (BAY)	BSTA5014	BAY	Bayesian Data Analysis See note 5, p 4	2nd edition	compulsory	Gelman A, Carlin JB, Stern HS, Rubin DB, Dunson DB, Vehtari A	Chapman and Hall / CRC Press	2013	Hardcover: 9781439840955 eBook: 9781439840962
Bioinformatics (BIF)	BSTA5013	BIF	Biological Sequence Analysis: Probabilistic models of proteins and nucleic acids		compulsory	Durbin R, Eddy S, Krogh A, Mitchison G	Cambridge University Press	1998	9780521620713

## 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, 11<sup>th</sup> 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 SAS or Stata previously, it is recommended that you have access to the text for the relevant software.

#### 3.i SAS textbook:

Full list of publications for *The Little SAS Book*:

Epub: 978-1-61290-400-9

Mobi: 978-1-61290-945-5

PDF: 978-1-62959-013-4

Hardcopy: 978-1-61290-343-9

**SAS Software compatibility:** DMC has a minimum requirement of SAS version 9.2

#### 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 12, with 14 or 1 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:** 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.

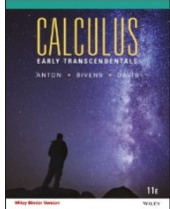
6. **EPI at University of Queensland:** "Essential Epidemiology: An introduction for students and health professionals", by Webb and Bain, 3rd edition, 2016, (Cambridge University Press), ISBN 9781107529151

## BUYING TEXTBOOKS

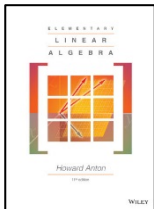
### Compulsory texts

#### MBB

Early Transcendentals

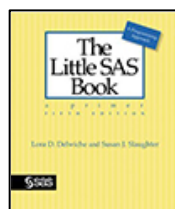


Elementary Linear Algebra

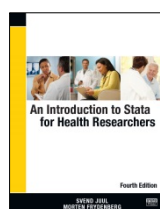


#### DMC:

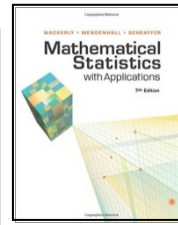
SAS



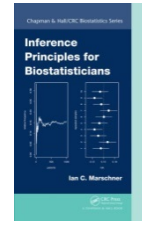
Stata



#### PDT



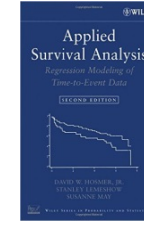
#### PSI



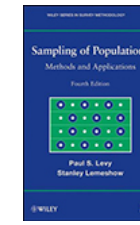
#### DES



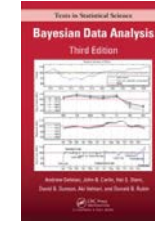
#### SVA



#### HIS



#### BAY



**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](http://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](mailto: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](http://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](http://www.addall.com)

**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. 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.

...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, 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 may be 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.

**Place your software orders as soon as possible.** Stata must be bought from the distributors, and you will need to install the software. See pages 7, 8 for details.

Unit	Software	NOTES
Epidemiology (EPI)	none	<p><b>Support for software in units of study</b></p> <p>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 will 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.</p> <p><b>If you need further help, please contact the BCA coordinating office: (02) 9562 5076 <a href="mailto:bca@ctc.usyd.edu.au">bca@ctc.usyd.edu.au</a></b></p>
Mathematical Background for Biostatistics (MBB)	WolframAlpha used in this unit. There are no other software requirements.	
Probability & Distribution Theory (PDT)	Stata	
Health Indicators & Health Surveys (HIS)	SAS or Stata, Excel	
Data Management & Statistical Computing (DMC)	Stata and SAS	
<p><b>DMC students please note:</b> you will need SAS and Stata. Introductory modules on these packages are a compulsory element of the unit.</p> <p>See pages 7 and 8 for information about how to obtain these packages.</p>		
Principles of Statistical Inference (PSI)	Stata or SAS	
Clinical Biostatistics (CLB)	Stata	
Design of Randomised Controlled Trials (DES)	Stata	
Linear Models (LMR)	Stata	
Categorical Data & GLMs (CDA)	Stata	
Survival Analysis (SVA)	Stata	
Bioinformatics (BIF)	R freeware will be downloaded	
Longitudinal & Correlated Data (LCD)*	Stata	
Bayesian Statistical Methods (BAY)	WinBUGS 1.4.3 and Excel or Stata	

**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 retails license fees.

If buying software directly from suppliers, students should state that they are studying BCA courses.

<b>STATA</b>	<b>Microsoft Excel</b>						
<p><b>Access to Stata</b></p> <p>You will need to buy the software directly from the distributors, <a href="#">Survey Design and Analysis Services</a></p> <p><i>Guidelines for buying Stata can be found on <a href="#">page 8</a>.</i></p>	<p>Excel is available in the Microsoft Office Package.</p>						
	<b>R</b>						
<p>Except for DMC, students may use R if they are comfortable with this package. R, Stata and SAS code will be provided in study notes, where possible.</p>							
<b>SAS</b>							
<p><b>Access to SAS</b></p> <p>The recommended option to run SAS is to use the SAS studio interface accessed via <b>SAS OnDemand for Academics</b>, which is a cloud based interface assessed via the SAS website (www.sas.com).</p> <ul style="list-style-type: none"> <li>▪ To access SAS OnDemand you will firstly have to log into the <a href="#">SAS website</a>.</li> <li>▪ Once you do this you then have to <a href="#">register for SAS OnDemand as an independent learner</a>.</li> <li>▪ SAS OnDemand works with both PCs and Macs and seems to work better if you use Internet Explorer when accessing it from a PC.</li> <li>▪ The PC version of SAS (SAS 9,2, 9.3 or 9.4) can be used by students who are using SAS at work or university. If you are accessing SAS at work or university you may or may not chose to use SAS Studio.</li> <li>▪ <b>SAS technical advice is available here:</b>  <a href="#">HP support site</a>; <a href="#">Dell support site</a>; <a href="#">Lenova Support site</a></li> </ul> <p>If you do have difficulty accessing <i>SAS OnDemand for Academics</i>, you may be able to install a full copy of SAS on your (Windows) computer, or you may be able to install <b>SAS University Edition</b> (if you have a 64 bit machine). Contact the DMC coordinator about SAS University Edition (64 bit machines only) or contact your home university* for a full copy of SAS (for windows only).</p>	<p>*Some universities have a university site licence. See below for contact details of relevant universities.</p> <p><b>Macquarie University:</b> <a href="mailto:gillian.heller@mq.edu.au">gillian.heller@mq.edu.au</a></p> <p><b>University of Queensland:</b> <a href="https://software.licensing.its.uq.edu.au/">https://software.licensing.its.uq.edu.au/</a></p> <p><b>University of Sydney:</b> <a href="mailto:sph.onlinesupport@sydney.edu.au">sph.onlinesupport@sydney.edu.au</a></p> <p><b>University of Melbourne:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Liz Dent</td> <td style="width: 50%;">Prof John Carlin</td> </tr> <tr> <td>03-8344 9339</td> <td>03-9345 6363, 03-8344 0733 (Tuesdays)</td> </tr> <tr> <td><a href="mailto:e.dent@unimelb.edu.au">e.dent@unimelb.edu.au</a></td> <td><a href="mailto:john.carlin@mcri.edu.au">john.carlin@mcri.edu.au</a></td> </tr> </table>	Liz Dent	Prof John Carlin	03-8344 9339	03-9345 6363, 03-8344 0733 (Tuesdays)	<a href="mailto:e.dent@unimelb.edu.au">e.dent@unimelb.edu.au</a>	<a href="mailto:john.carlin@mcri.edu.au">john.carlin@mcri.edu.au</a>
	Liz Dent	Prof John Carlin					
	03-8344 9339	03-9345 6363, 03-8344 0733 (Tuesdays)					
<a href="mailto:e.dent@unimelb.edu.au">e.dent@unimelb.edu.au</a>	<a href="mailto:john.carlin@mcri.edu.au">john.carlin@mcri.edu.au</a>						
<p>Supplier support: <a href="#">SAS Academic</a>.</p>							
<p><b>Note</b> for students doing DMC, <b>who bought a package previously: You will need to update the SID (SAS Installation Data) files</b> as this must be done annually. (Standard SAS software licence renewal process: The Product Authorisation Code notice period will cease 30 days after the licence renewal date.)</p> <p>Send requests for the latest SID, filed to <a href="mailto:academic@oz.sas.com">academic@oz.sas.com</a></p> <p><b>Note:</b> Please do not amend the ‘SAS use only’ dates on your <i>Home Use Agreement</i> form and send these to the supplier. SAS will not accept these amended forms.</p>							

## BUYING STATA FOR BCA UNITS OF STUDY

You will need to buy Stata directly from the suppliers, available to students at heavily discounted prices. Place your order via the [Survey Design website](#)

**Options and prices for [GradPlan](#) 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.

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### Stata/IC – suitable for medium size datasets

Available as

- 6 month expiring edition
- 12 month expiring edition
- Perpetual edition\***

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### 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 14,000+ pages of manual documentation in 26 volumes, provided in a PDF format.

With a Stata GradPlan 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 within 1-2 business days 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.