POSTGRADUATE PROGRAMS
School of
PUBLIC HEALTH AND COMMUNITY MEDICINE

PHCM 9517

Advanced Biostatistics and Statistical Computing

Semester 2, 2011

UNSW
THE UNIVERSITY OF NEW SOUTH WALES

SCHOOL OF PUBLIC HEALTH
AND COMMUNITY MEDICINE

Contributor/s

These course notes were written by Dr Md. Bayzidur Rahman and A/Prof Lawrence T Lam. Special thanks to Prof Matthew Law and Dr Janaki Amin for their statistical editorial input, Professor Matthew Law, Professor Richard Taylor, Professor Mary-Louise McLaws, Dr Timothy Dobbins for their guidance on content, to Lois Meyer for her course design assistance and Dr Siranda Torvaldsen for proof reading the materials.

Contents

Course Outline

Resources and Glossaries

Course Notes

Introduction to SAS

Welcome

Advanced Biostatistics is a new course designed by senior statisticians, researchers and practitioners in the fields of biostatistics and epidemiology. This course provides an opportunity for postgraduate students to learn from experts in the field. It seeks to enhance your capacity in biostatistical methods and develop your capacity for applying advanced techniques in public health research and practice.

This course was designed to build on and extend the Statistics component in PHCM9498 Epidemiology and Statistics for Public Health. In this course we will adopt a very practical approach that will support and develop your understanding and skills in sophisticated biostatistical methods.

You will develop skills in common statistical analytical techniques that are essential for a career in public health and medical research including:

- Analysis of Variance (ANOVA)
- Simple and multiple linear regression for continuous outcome variables
- Logistic regression for binary outcome variables
- Poisson and Negative Binominal regression for counted outcome variables
- Survival Analysis for time-to-event data.

During this course we will be using the computer software Statistical Analysis Software (SAS).The SAS software will be provided to students for their home access.

Course staff

Course convenor

Dr Md. Bayzidur Rahman

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Lecturers

Dr Md. Bayzidur Rahman

Bayzid trained and worked as an environmental scientist in Bangladesh before commencing his PhD in epidemiology and biostatistics at the University of Sydney on environmental exposures and the risk of cancer. While undertaking his PhD, Bayzid worked as a consultant biostatistician for several research institutes including St Vincent's Hospital and for the Australian and New Zealand Society for Nephrology. He commenced his current position as a lecturer in statistics at the School of Public Health and Community Medicine, UNSW in January 2010 and has been teaching the Statistics part of the "Epidemiology and Statistics for Public Health" course since then. His research interests include multivariate methods, systematic review and meta-analysis, exposure modelling and the epidemiology of cancer and environmental factors, advanced analysis of count data and analysis of data from clustered randomisation trials. He is currently leading the meta-analysis of a multicentre Cochrane systematic review on breast feeding and dental caries. He is involved as associate investigator in several research projects in Australia, China and Bangladesh including the "D-Health" trial on vitamin D, cohort study on arsenic exposure and chronic diseases, neglected tropical diseases and cross-sectional study on smokeless tobacco use in Bangladesh. He is currently co-supervising several PhD students at UNSW and other universities in Australia. He has previously taught at the University of Sydney for three years and as a guest lecturer at the University of Newcastle.

A/Prof Lawrence T Lam

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Assoc. Prof. Lawrence Lam is the Head of Epidemiology and Medical Statistics of the School of Medicine Sydney, The University of Notre Dame Australia, as well as an Honorary Assoc. Prof. of the Sydney Medical School, the University of Sydney. He received training in different areas including Medical Sciences, Psychology, Public Health, Epidemiology and Medical Statistics. He has been researching and publishing in many areas including Clinical Trauma Management and Injury Prevention, Paediatric and Adolescent Mental Health, Environmental Child Health, Risky Behaviours among young people particularly young people's driving behaviour and psychology, Rehab of traumatic brain injury among children and young people, and Psychometrics. He has been teaching Epidemiology and Medical Statistics for more than 10 years.

Guest presenter

Professor Mary-Louise McLaws

Professor of Epidemiology in Healthcare Infection & Infectious Diseases Control
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Prof McLaws is a Professor of Epidemiology has collaborated with researchers in Iran, Taiwan, Hong Kong, Macau SAR, China and Vietnam on infectious diseases control, surveillance and patient safety. In 1998 she developed the first standardised surveillance system for hospital infection as a pilot for the NSW Department of Health for which she won the *1999 Baxter-Australian Healthcare Association Healthcare Innovation Award - for Standardised Surveillance of Hospital Infection in Australia*. Her recent short term missions as a WHO Advisor have been with the People's Republic of China Ministry of Health and the Malaysian Ministry of Health advising on the development of an accreditation system for the surveillance of infection control and associated patient safety practices. She has worked on the evaluation of the Beijing SARS outbreak and reviewed the outbreak of SARS in healthcare workers in the SARS designated hospital in Hong Kong. Her work has received Highly Commended Peter Baume Public Health Impact Prize for 2009. Mary-Louise currently holds a position as Epidemiology advisor to the WHO First Patient Safety Challenge – *Clean Care Saves Lives* and is honorary epidemiologist with Prince of Wales, Concord and Centro Hospitalar Conde De Sao Januario (Macau) hospitals.

Tutors

Dr. W. Y. Nicola Man

Research Fellow, International HIV Research Group School of Public Health and Community Medicine
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Nicola Man has a PhD in statistical genetics from the University of Sydney. She has been a Research Fellow undertaking the collection and analysis of quantitative social and behavioural data with the International HIV Research Group since the beginning of 2010. Her main academic and research interest is in the use and development of statistical methods, such as those for clustered data (e.g. mixed models) and count data (e.g. negative binomial models and zero-inflated count models).

Course information

Units of credit

This is an elective course in the postgraduate program within the School of Public Health and Community Medicine. It is worth 6 units of credit (UOC) towards the total 48 UOC required for the completion of a Masters program.

A prerequisite for this course is PHCM9498 *Epidemiology and Statistics for Public Health* or equivalent.

Course aim

This course aims to enable you to apply advanced biostatistical methods to address public health research questions. In particular, it aims to support you to reach a level of proficiency where you will be able to select the appropriate statistical analytical method to address specific research questions with a given data set, conduct the selected statistical analysis using SAS, present and interpret the results appropriately, and draw valid and insightful conclusions about the research question.

Course outcomes

Upon successful completion of the course you will be able to:

- Determine the appropriate statistical analytical technique for different epidemiological study designs and datasets.
- Conduct statistical data analysis using advanced techniques on complex datasets with different types of variables.
- Demonstrate an understanding of issues arising from the application of modelling techniques in statistical analysis and appropriate procedures to handle these issues. Issues include: confounding and effect modification in epidemiological studies, model diagnostics, and model building strategies.
- Correctly interpret results and draw valid conclusions addressing the research question.
- Critically discuss results and present findings at a standard that is sufficient for submission to scientific journals or reports.

Learning and teaching rationale

The course focuses on developing practical experience that will assist your understanding and application of statistical techniques and in using SAS software. The focus is to provide you with the capacity to think critically about epidemiological questions and the use of advanced biostatistical methods to address medical and public health research.

Teaching strategies

The course comprises compulsory on-campus lectures, practicals, and tutorials. In addition to the lecture materials, extra learning materials may also be posted on the UNSW Blackboard learning management system.

The course covers five different analytical techniques used in public health and medical research. These include analysis of variance (ANOVA), simple and multiple linear regression for continuous outcome variables, logistic regression for binary and categorical variables, Poisson and negative binominal regression for counted variables, and survival analysis for time-to-event data.

Lectures

You are required to attend a two-hour lecture each week. In addition there is a weekly one hour tutorial and a one hour practical SAS clinic. Lectures are structured to introduce the basic concepts, application of techniques and interpretation of results in the first hour. A demonstration of the SAS program in applying the methods discussed with a real dataset is the focus of the second hour of the lecture session. In some weeks, there will be a short presentation by a guest presenter at the beginning of the lecture on practical implications of the methods to be discussed. In the last lecture of the semester in week 13, there will be a revision session to summarise all the materials covered in the course.

The weekly lectures will be recorded and will be available online to students via podcast through Blackboard. It is important to note that the podcast cannot capture the SAS demonstration in the second half of the lecture.

Additional materials may also be posted on UNSW Blackboard for further studies. These materials provide extra information and are aimed at providing you with an opportunity to extend your knowledge in topics of interest. Other material related to assignments will be posted on Blackboard to assist all students fulfil their weekly tasks.

Tutorials

Each week, from Week 1 to Week 13, you will be able to attend a one hour tutorial class on the materials from the previous week's lecture. The tutorial will be held 2.00 – 3.00pm each Thursday and the lecture will follow immediately afterwards (3.00 – 5.00pm).

During tutorial classes, students are expected to attend and work through problems given in the learning activities at the end of each Module. In the tutorial class students will have an opportunity to discuss the learning activity problems, present their results and conclusions and discuss their understanding of concepts and principles related to the activities.

SAS Clinic

On each Monday of the university semester - weeks 1 to 13 - there will be a SAS clinic supervised by a tutor in the computer laboratory (Wallace Wurth G2/G4). The computer lab will be available for students from 5.00 to 8.00pm and the tutor will be available 7.00 to 8.00pm. The SAS clinic is to help you work on the learning activities from the previous week's lecture and receive feedback and support. Because of the Public Holiday on Monday the 3rd October, the SAS clinic will happen on Tuesday only on that week. Attendance at the clinic is not compulsory but is *highly* recommended.

Residential Workshop (12 July, 12.00 to 5.00pm)

It is mandatory for all students to attend a half-day workshop during residential week. You are required to attend because the residential workshop introduces you to the course, its outcomes, assessment criteria and the first module on one-way analysis of variance (ANOVA). In addition, the workshop is an opportunity for you to clarify expectations, meet other fellow students and establish a working relationship with the teaching staff. Importantly, during the second part of the workshop there will be a hands-on practical demonstration of SAS in the computer lab. In this session you will be introduced to the SAS program where you will learn important basic procedures of this program and how to use it for conducting ANOVA.

You will find it useful to prepare for the workshop by reviewing this course outline and reading the course notes for the Module 1 as well as the notes on an 'Introduction to SAS'.

Please ensure you have activated your z-pass before attending the workshop so that you can log onto the University system for the tutorial.

The online weekly lectures and tutorials

All students have access to the course modules and readings online via UNSW Blackboard. There are discussion areas on the site where students can ask questions relating to the weekly learning activities and the course assessments. It is essential that all students check the course website for announcements and new materials at least weekly.

All the assessment questions and related datasets will also be posted on Blackboard in due time. Students will also need to post answers to all the assessments on Blackboard in a Word document by the due date.

PLEASE NOTE:

All students enrolled in this course will be eligible to have a copy of the SAS software to use on their home computer. It is a condition between the UNSW and SAS Institute that every student using this software at home signs an agreement.

A copy of the SAS software will be provided on a USB memory stick at the Residential Workshop.

Students who want to install this software on their home computer will have to sign an agreement form for home use of this software and borrow the memory stick. After copying the media on their home computer they will have to return the memory stick to the postgraduate office. Please note that SAS is not compatible with Mac. There are several alternative ways of installing SAS on a Mac. The guidelines are available online at:
http://support.sas.com/kb/18/131.html

Online learning component using UNSW Blackboard

UNSW Blackboard is a Learning Management System that supports university learning and teaching by extending the face-to-face learning environment to online learning spaces and providing virtual classrooms for distance learning courses. See:
http://telt.unsw.edu.au/

All students have access to the course modules and readings online via UNSW Blackboard. There are discussion areas on the site where students can ask questions relating to the weekly learning activities and the course assessments. It is essential that all students check the course website for announcements and new materials at least weekly.

All the assessment questions and related datasets will also be posted on Blackboard in due time. Students will also need to post answers to all the assessments on Blackboard in a Word document by the due date.

Guidance for using UNSW Blackboard

The School runs a Blackboard tutorial during residential week at the start of each semester. If you are unable to attend this tutorial, guidance for using UNSW Blackboard, including some basic tips, can be found at:
http://support.telt.unsw.edu.au/blackboard
If you are still experiencing difficulties with UNSW Blackboard, please contact the UNSW IT Service Desk for assistance.

Please note: We will also be incorporating a session on how to use UNSW Blackboard for this course at the Foundations workshop on 12 July 2011.

Assessment

The written assessment is expected to be your own individual work even if you worked on the assignment in a group or discussed it in your tutorial group. It is essential that you abide by academic standards and that your assignment is not the result of collusion or that of plagiarism. Please see UNSW definition of collusion and plagiarism in the course notes.

There are three assessment components for the course, as shown below.

Assessment	Marks	Due by
1. Take home test	15%	16 August, 2011
2. Assignment 1	30%	12 September, 2011
3. Assignment 2	55%	7 November, 2011

1. Take home test

Weighting: 15% **Due Date: 16th August**

A take home test is a variation of an open book exam. It aims to allow you to produce well-written and well-thought-out responses to the questions in the test.

Materials from Module 1 (ANOVA) to Module 3 (Confounding and effect modification in multiple regressions) will be assessed in this test. The paper along with the relevant dataset will be made available on Blackboard at 4.00pm on Friday 12 August.

You will be required to complete the answers over the weekend and upload it on Blackboard by 4.00pm on Tuesday 16 August.

In this test you will be assessed for your ability to identify appropriate statistical techniques to analyse a dataset to address a given research question; use SAS software to carry out the analysis and interpret the results.

It is of course expected that your responses to the test are entirely your own. You must undertake it by yourself without any help from others. Students are strictly advised not to discuss the questions in the test amongst themselves or with others during the examination period. This includes not using online discussion.

When completing the take home test you can use:
- The course modules
- Computer and CDROM
- Text books and other readings
- Lectures/tutorial content posted on Blackboard
- Messages posted on Blackboard prior to the test

Extensions will be granted for submission of the answer paper only for legitimate reasons (e.g., illness).

2. Assignment 1

Weighting: 30% **Due Date: 12 September**

This will be in the form of a mini research project where you will be given a specific research problem with a dataset. You will need to choose the appropriate analytical technique given the research question and the nature of the variables in the dataset. You need to analyse the data with the statistical method you have chosen using SAS, interpret the output and write a brief report on your findings from the study.

You will be assessed on your ability to choose appropriate statistical techniques, analyse the data using SAS and write the report summarising the results. Questions and datasets for this assessment will be posted on Blackboard by 1st August and it will be due by the 12 September 2011. This assignment will cover materials from Module 1 to Module 5.

3. Assignment 2

Weighting: 55% **Due Date: 7 November**

This assignment will be in the same format and requiring the same type of response as for Assignment 1. However this assignment will cover materials from Module 6 to Module 13. There will be three separate questions (one question on Module 5-8, one on Module 9 and one on module 10-13) in this assignment and you will be expected to demonstrate skills in choosing appropriate statistical techniques, analysing the data using SAS and writing a report summarising the results to publication standard. The questions and datasets for Assessment 3 will be posted on Blackboard by 19th September and it will be due by the 7th November 2011.

Grading and marking

Grades to be used are represented by the following symbols (and corresponding range of marks):

HD (85%-100%), **DN** (75%-84%), **CR** (65%-74%), **PS** (50%-64%), **FL** (<50%)

HD This grade represents a High Distinction. This level of performance involves all of the characteristics of a DN performance but also a level of excellence that makes it outstanding. The level of originality, creativity, or depth of thought and understanding shown would be higher than normally expected for postgraduate students. It demonstrates a higher order of critical thinking and reflection than that demonstrated at the level of DN.

DN This grade represents a Distinction. This level of performance involves all of the characteristics of a CR performance but also a level of originality, creativity, or depth of thought and understanding. The work might involve a high level of abstract thinking, or

the ability to take an idea or an application into a new context, understand the demands of that context and make modifications. Specific assessment criteria relevant to this assignment are adequately addressed and ALL aspects well done. (This distinguishes it from a CR in which one or two aspects may be incomplete or otherwise not well done.)

CR This grade represents a Credit. The assignment or project comes together to make a broadly coherent whole. The response answers the question, makes a good argument, draws on appropriate evidence, and shows some selectivity and judgment in deciding what is important and what is not. Communication is clear and effective. Specific assessment criteria relevant to this assignment are adequately addressed. (One or two aspects may not be well done but the overall result is still MORE THAN satisfactory).

PS This grade represents a pass. The student has demonstrated understanding of the basic aspects of the topic, but they may be minimally integrated and fail to make a convincing coherent statement or argument. Written work may be descriptive rather than analytical. It may rely too much on retelling other sources such as texts and lecture notes, with little evidence that the student is capable of transforming these into a personal understanding. Significant elements of the assignment are treated superficially. Assessment criteria relevant to the assignment are sufficiently addressed to warrant a PS however the overall standard is no more than satisfactory.

FL This grade represents a clear fail. This grade is used when the student has misunderstood the point of the assignment, or failed to address the most important aspects of the topic. In other words a substantial failure, which would need major work before it could be passed.

NOTE: Students are expected to meet UNSW standards of academic writing and in particular must meet standards of referencing described by the Learning Centre. Failure to reference correctly may limit marks to PS or below. Plagiarism or collusion will result in an automatic FL.

Submitting your assignments

1. All assignments must have a cover sheet attached. Cover sheets can be downloaded from the school website: http://www.sphcm.med.unsw.edu.au/sphcmweb.nsf/page/AdminForms
2. Extensions with reasonable length only granted if requested before the due date. Longer extensions, up to a maximum of two weeks, are only considered with medical certificate unless other appropriate reason is given.
3. Assignments will not be marked if submitted after other students' assignments returned.
4. Only FL assignments can be resubmitted. The maximum grade that can be achieved after re-marking is a PS.
5. Assignments will be marked within two weeks of due date. Feedback may not reach students until 3 weeks after assignment submission.
6. All assignments are to be submitted as Word documents through Blackboard.

7. Marked assignments for internal students are to be collected by individual students from the School.
8. All late assignments (unless extension or exemption previously agreed) will drop a grade. This rule applies if the assignment is one day or one week late.

Return of assignments

The students will collect marked assignments from their tutors or from the postgraduate course work office.

Referencing

It is your responsibility to learn one of the accepted academic methods for acknowledging sources of information (citing references). Guidelines for acknowledging sources of information can be found on the following websites:

Faculty of Medicine
http://web.med.unsw.edu.au/infoskills/cite.htm

SPHCM
http://www.sphcm.med.unsw.edu.au/sphcmweb.nsf/page/AssessmentGuidelines

The Learning Centre
http://www.lc.unsw.edu.au/olib.html#Referencing

Academic honesty and plagiarism

At UNSW plagiarism is considered to be a form of academic misconduct and is viewed very seriously. The following notes describe what plagiarism is. You need to ensure you understand what it is so you avoid it in any of your assignments or other work.

What is Plagiarism?

Plagiarism is the presentation of the thoughts or work of another as one's own.* Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;

- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism.

Knowingly permitting your work to be copied by another student may also be considered to be plagiarism.

Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism.

The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via: www.lc.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.
Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle
† Adapted with kind permission from the University of Melbourne.

Collusion

The School recognises and encourages the need of external students to have contact with each other and where possible collaborate in their studies. However, there have been instances where students have copied each other's material and submitted it as their own. Lecturers, despite their heavy workload, are alert to this practice. It is emphasised that where collusion can be shown, the students involved may be required to rewrite and re-submit their assignments or may be awarded a fail for the assignment or may be failed in the whole course and even be excluded from the University for misconduct. You should not attempt the assignment questions together and submit the same work as someone else. **It is also not acceptable to submit an assignment which has been submitted by another student, including in a previous year.**

Readings and resources

Learning resources for this course consist of the following:

- Course notes and recommended readings from journal articles and text books. Specific reading lists are provided at the end of each module.
- Links to all the journal articles and available e-books from the recommended texts will be embedded on Blackboard.
- Links to the scanned copies of relevant chapters from other books will also be available on Blackboard.
- All students will be given access to a secured website of the SAS Institute that will include valuable resources on learning SAS and the statistical methods covered in the course.

Continual course improvement

Periodically students will be asked to provide feedback on both the course and teaching for our continuous improvement. The UNSW's Course and Teaching Evaluation and Improvement (CATEI) Processes are used along with student focus groups, student forums, and at times additional evaluation and improvement instruments developed in consultation with the Faculty of Medicine's Program Evaluation and Improvement Group. Student feedback is taken seriously, and continual improvements are made to the course based in part on this feedback.

Evaluation activities are routinely undertaken across the Faculty of Medicine and are linked to improvements as well as ensuring support for learning and teaching activities for both students and staff.

Since this course is being offered for the first time at the SPHCM, your feedback is crucial for improvements to be made to the course. At the end of the course, you will be asked to participate in the evolution process and to complete the CATEI form.

Additional support to students

SAS software for students

All students enrolled in this course will be eligible to have a copy of the SAS software to use on their home computer. It is a condition between the UNSW and SAS Institute that every student using this software at home signs an agreement. A copy of the software will be provided on a USB memory stick at the foundation workshop. Students who want to avail this opportunity will have to sign the form

and borrow the memory stick and after copying the media on their home computer they will have to return the memory stick to the postgraduate office. Please note that SAS is not compatible with Mac. There are several alternative ways of installing SAS on Mac. The guidelines are available online at: http://support.sas.com/kb/18/131.html

IT requirements for UNSW students

Our courses have online components which have been developed and are taught on the assumption that all students meet the UNSW IT Requirements Policy. Viewable online at: https://www.it.unsw.edu.au/students/policies/index.html

UNSW IT Service Desk (UNSW Blackboard support)

The IT Service Desk is your central point of contact for assistance and support with UNSW Blackboard, UniPass, zPass, UniMail, UniWide, zMail and Anti-virus software. Contact them directly for assistance with IT related matters, including UNSW Blackboard:

Website:	http://www.it.unsw.edu.au/index.html
Tel:	+61 (2) 9385 1333
Email:	itservicecentre@unsw.edu.au
Location:	UNSW Library

UNSW library support

Staff at the library can help you:

- find information resources for your assignments
- access electronic resources & databases
- advise you on library and information services.

Information about UNSW library assistance is available at:

Library Homepage:	http://www.library.unsw.edu.au/
Postgraduate Services:	http://www.library.unsw.edu.au/servicesfor/PGandH.html
Tel:	02 9385 2650
Location:	UNSW Library, Level 2 Service desk

Library resources

Online training and resources

There are a variety of online tutorials and resources available to Postgraduate students to help equip you with the information skills you will need to get started in your program such as: searching databases (which include videos and screen captures), evaluating different types of resources like peer-reviewed journals and websites, and citing references. These resources are designed to help students

learn more about: searching for information to complete assignments and projects, and self-directed learning. It is highly recommended that students complete the **Online Information Skills Tutorial** prior to commencing their studies and assignments. http://eliseplus.library.unsw.edu.au/

Subject guides

Use these guides as a quick and easy pathway to locating resources in your subject area. These excellent guides bring together the core web and print resources in one place and provide a one click portal into the online resources.

UNSW Library Subject Guides: http://subjectguides.library.unsw.edu.au/

Public Health and Community Medicine Subject Guide:
http://subjectguides.library.unsw.edu.au/publichealth

Virtual Library: Public Health

The Virtual Public Health Library brings together public health sites and resources from around the world in a systematic and easily accessible way for all those wishing to be in touch with the most relevant and meaningful public health resources – see http://vph.sphcm.med.unsw.edu.au/

Learning Centre

The Learning Centre provides a wide range of workshops and study skill resources to students enrolled in degree programs at the University. Students can access information on: Essay and assignment writing, Exam skills, Reading and writing skills, Referencing and plagiarism, Organisation skills, Oral presentations. See: http://www.lc.unsw.edu.au

Administrative matters

All administrative matters are covered comprehensively on the SPHCM Website. Check for details on how to access email, obtain your UniPass etc. at:
http://www.sphcm.med.unsw.edu.au/sphcmweb.nsf/page/StudentResources

See the school website for information on school assessment guidelines, including extensions and late assignments:
http://www.sphcm.med.unsw.edu.au/SPHCMWeb.nsf/page/AssessmentGuidelines

If you do not have a handbook you can pick one up from the Postgraduate Coursework Office, Level 2 Samuels Building or download if from the web.
http://www.sphcm.med.unsw.edu.au/SPHCMWeb.nsf/page/Current%20Students

For any further assistance, you can contact:

Postgraduate Office
School of Public Health and Community Medicine
The University of New South Wales
Level 2, Samuels Building
UNSW Sydney NSW 2052, Australia

T: + 61 (2) 9385 1699 - Graduate Health Management Programs
T: + 61 (2) 9385 2507 - Graduate Public Health Programs
T: + 61 (2) 9385 1928 - Graduate Clinical Education Programs

F: + 61 (2) 9385 1526
E: postgrad-sphcm@unsw.edu.au

Other matters

Occupational Health & Safety:
http://www.ohs.unsw.edu.au/ohs_students/index.html

Complaints procedures: https://my.unsw.edu.au/student/atoz/Complaints.html

Equity & Diversity: http://www.studentequity.unsw.edu.au/content/default.cfm?ss=0

Course schedule

Module*	Lecture	Optional Clinic#	Tutorial (1 per week)	Assessment
Foundation and Module 1	12-2 Tues 12/7 (Week 0)	6-8 Mon 18/7 (Week 1)	3-5 Tues 12/7 2-3 Thu 21/7	
2	3-5 Thu 21/7 (Week 1)	7-8 Mon 25/7 (Week 2)	2-3 Thu 28/7	
3	3-5 Thu 28/7 (Week 2)	7-8 Mon 1/8 (Week 3)	2-3 Thu 4/8	
4	3-5 Thu 4/8 (Week 3)	7-8 Mon 8/8 (Week 4)	2-3 Thu 11/8	
5	3-5 Thu 11/8 (Week 4)	7-8 Mon 15/8 (Week 5)	2-3 Thu 18/8	**Take Home Test (15%). Due 4pm Tuesday, 16/8**
6	3-5 Thu 18/8 (Week 5)	7-8 Mon 22/8 (Week 6)	2-3 Thu 25/8	
7	3-5 Thu 25/8 (Week 6)	7-8 Mon 29/8 (Week 7)	2-3 Thu 1/9	
Mid Semester Break				
8	3-5 Thu 1/9 (Week 7)	7-8 Mon 12/9 (Week 8)	2-3 Thu 15/9	**Assignment 1 (30%) due 5pm 12/9**
9	3-5 Thu 15/9 (Week 8)	7-8 Mon 19/9 (Week 9)	2-3 Thu 22/9	
10	3-5 Thu 22/9 (Week 9)	7-8 Mon 26/9 (Week 10)	2-3 Thu 29/9	
11	3-5 Thu 29/9 (Week 10)	7-8 Tues 4/10ξ (Week 11)	2-3 Thu 6/10	
12	3-5 Thu 6/10 (Week 11)	7-8 Mon 10/10 (Week 12)	2-3 Thu 13/10	
13	3-5 Thu 13/10 (Week 12)	7-8 Mon 17/10 (Week 13)	2-3 Thu 20/10	
Revision (optional)	3-5 Thu 20/10 (Week 13)	No clinic	No tutorial	**Assignment 2 (55%) due 5pm 7/11**

* the topics covered in each module are shown in the index on page 4.

\# the optional Clinic is to assist students with SAS programming related to the activities so answers can be discussed at the tutorial.

ξ due to public holiday on the 3rd October Monday, the Clinic will happen at the same time on the 4th October, Tuesday.