



**UNSW**  
AUSTRALIA

Medical Sciences  
Medicine

# **HESC 3208**

# **CANCER SCIENCES FOR EXERCISE PHYSIOLOGY**

SESSION 2, 2015

CRICOS Provider Code 00098G

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Please read this manual/outline in conjunction with the following pages on the

[School of Medical Sciences website:](#)

- [Advice for Students](#)
- [Learning Resources](#)

(or see "STUDENTS" tab at [medicalsciences.med.unsw.edu.au](http://medicalsciences.med.unsw.edu.au) )

## Course Introduction

HESC3208 Cancer Sciences for Exercise Physiology is focussed on the assessment, design and delivery of exercise programs for cancer patients. For those wishing to pursue a career in exercise physiology in the oncology field, the course will emphasise cancer diagnosis, treatment and the application of exercise to improve the management of the disease. Students undertaking HESC3208 will gain a basic knowledge of cancer biology, including aetiology and risk factors. They will also learn the scientific rationale underpinning current and future practices in cancer management (diagnosis and treatment), and the concept of 'individualised' cancer medicine. At the same time, students will develop an understanding of the role exercise can play throughout the cancer journey, including pre-habilitation, during treatment, rehabilitation and during the palliative stage. This will include coverage of patient consultations and the design and delivery of exercise for cancer patients.

The course is run jointly with Cancer Sciences Course (PATH3208).

## Course staff

Administrative and general problems related to attendance, or the content and conduct of the course, can in the first instance be addressed by consulting one of the course convenors.

**Course Convenors** A/Prof **Jeanette Thom** [j.thom@unsw.edu.au](mailto:j.thom@unsw.edu.au)

**Carolina Sandler** [c.sandler@unsw.edu.au](mailto:c.sandler@unsw.edu.au)

## Specialist Exercise Physiology Staff

Mr <b>Michael Marthick</b>	RPA, Chris O'Brien Lifehouse	AEP Lifehouse
Dr <b>Susanna Park</b>	UNSW Medicine, NSW Cancer	Researcher

## PATH3208 Course convenors:

A/Prof **Jia-Lin Yang** (Course convenor) [j.yang@unsw.edu.au](mailto:j.yang@unsw.edu.au)  
Consultation time: Wednesday 2-3pm

Dr **Caroline Ford** (co-convenor) [caroline.ford@unsw.edu.au](mailto:caroline.ford@unsw.edu.au)

## School of Medical Sciences

Dr **Darren Saunders** (Senior Lecturer, SoMS)

## School of Biotechnology and Biomolecular Sciences

Prof **Marc Wilkins** (Director of NSW System Biology Initiative, BABS)

Dr **Helen Speirs** (Centre Manager, Ramaciotti Centre for Genomics, BABS)

## Prince of Wales Clinical School

Prof **Phillip Crowe** (Head of POWCS, Chairman of Surgery, POWH)

Prof **Phillip Hogg** (Head of Molecular Innovation Section, ACP, LCRC)  
Prof **David Goldstein** (Medical Oncologist, POWCS)  
Prof **Paul Thomas** (Medical Oncologist, POWCS)  
A/Prof **Michael Jackson** (Head of Radiation Oncology, POWCS)  
A/Prof **Claire Vajdic** (Centre for Big Data Research in Health, Medicine)  
Dr **Kathy Tucker** (Head, Hereditary Cancer Clinic, POWH)  
Dr **Anchit Khanna** (Peter Doherty Research Fellow, SCRG, ACP, LCRC)  
Dr **Anthony Don** (Senior lecturer, Bioactive Lipid Signalling Group Leader, ACP, LCRC)  
Dr **Luke Hesson** (Senior lecturer, Molecular and Cellular Oncology Group Leader, ACP, LCRC)  
Dr **Carl Power** (Head of Biomedical Resources and Imaging Laboratory, LCRC)  
Dr **Barbara-Ann Adelstein** (Health Services Research, POWCS)  
Dr **Jason Wong** (Senior Lecturer, Bioinformatics Group Leader, ACP, LCRC, POWCS)  
Dr **Jeremy Henson** (Cancer Cell Immortality Group Leader, ACP, LCRC, POWCS)  
Dr **Kerrie McDonald** (Cure Brain Cancer Neuro-Oncology Group Leader, ACP, LCRC)  
Dr **Melvin Chin** (Medical Oncologist, POWCS)  
Ms **Meg Schneider** (Chief Radiation Therapist, POWCS)  
Dr **Shing Wong** (Surgical Oncologist, POWCS)  
Dr **Stephen Thompson** (Radiation Oncologist, POWCS)  
Mr **Simon Downes** (Director of Medical Physics, POWCS)  
Dr **Phoebe Phillips** (Pancreatic Cancer Research Group Leader, ACP, LCRC)  
Dr **Vivien Chen** (Coagulation in Cancer Group leader, ACP, LCRC)  
Dr **Robert Rapkins** (Cure Brain Cancer Neuro-Oncology Group, ACP, LCRC)  
Ms **Weini Samuel** (ACP Manager, LCRC)

### **Guest Lecturers/Instructors/tutors**

Prof **Martina Stenzel** (Head, Centre for Advanced Macromolecular Design)  
Dr **Renee Whan** (Head of Biomedical Imaging Facility)

### **Textbooks**

Students are expected to access the following texts:

Irwin, M (2012). **ACSM's Guide to Exercise and Cancer Survivorship** Human Kinetics.

Weinberg R.A. (2007) **The Biology of Cancer**. Garland Science, Taylor & Francis Group.

### **Suggested Reference Books**

**American College of Sport Medicine (2010)** ACSM guidelines for exercise testing and prescription. (8th edition) Lippincott, Williams and Wilkins, Philadelphia, USA.

**The Biology of Cancer**, 2<sup>nd</sup> Edition. Robert A Weinberg, ©2013, Taylor & Francis Group LLC. ISBN 9780815342205. (PATH3208 textbook)

## Course Details

This course is offered during session 2 and has six unit of credit (UOC).

It will involve both individual and group work components related to the development of experimental strategies in cancer research. Group work contributes 30% of all assessment items.

Successful completion of HESC3541 Clinical Exercise Physiology and PATH2202 Processes in Disease, Health & Exercise Science are prerequisites for enrolment to the course.

## Course Aims

1. To provide students with knowledge of cancer biology, including aetiology and risk factors.
2. To teach students the scientific rationale underpinning current and future practices in cancer management (diagnosis and treatment), and the concept of 'individualised' cancer medicine.
3. To develop skills on history taking of cancer patients and being able to recognise the implications of the history for exercise participation.
4. To gain knowledge and practical skills for assess the health and fitness of a cancer patient
5. To gain knowledge and skills on exercise programming and exercise delivery to improve the health and fitness of the cancer patient and potential management of cancer treatment.

## Student learning outcomes

This course will enable students to explore and gain an understanding of the current and future treatment of cancer. This course provides the fundamental knowledge and promotes the development of skills which will work towards the realisation of the overall Bachelor of Exercise Physiology program objectives and skills of an Exercise Physiologist.

At the end of the course you should be able to:

1. Describe causes and risk factors for common cancers, and relate these to known pathogenetic mechanisms.
2. Describe current approaches to the diagnosis and treatment of common cancers
3. Work independently to identify and critically analyse articles from the current cancer research literature
4. Work as part of a team to conduct an effective oncology client consultation, gathering information on medical history, physical activity history and other relevant information which will inform exercise programming.
5. Demonstrate skill competency in being able to recognise the implications from a client consultation for exercise participation.
6. Work as part of a team to develop a comprehensive health and fitness assessment and exercise program for a client, using the information provided in the client consultation.
7. Communicate effectively through oral presentations their knowledge and understanding of a health and fitness assessment and exercise programming strategies to their peers
8. Effectively assess exercise programming presentations made by their peers.
9. Demonstrate an understanding and skill competency in assessing the health and fitness of a cancer patient
10. Demonstrate an understanding and skill competency in exercise programming and exercise delivery to improve the health and fitness of the cancer patient and potential management of cancer treatment.

## Graduate Attributes

The students will be encouraged to develop the following Graduate Attributes by undertaking the selected activities and knowledge content. These attributes will be assessed within the prescribed assessment tasks. At the conclusion of this course the student will be able to be:

1. Understand the relationship between physical activity and chronic disease management
2. Apply clinical skills and knowledge relevant to health and fitness assessments of cancer patients
3. Engage in independent and reflective learning for the betterment of professional practice following an evidence-based approach
4. Work as a member of a team
5. Communicate effectively with patients, colleagues and other health professionals

## Rationale for the inclusion of content and teaching approach

**How the course relates to the Exercise Physiology profession** – The content allows students to develop a fundamental knowledge of the most recent techniques and discoveries in the management and treatment of cancer. The tutorial content also develops fundamental knowledge and skill competency on the role physical activity can play in the management of cancer. This forms the basis upon which the knowledge and skill competency enable an Exercise Physiologist to deliver lifestyle programs that use exercise with an aim of promoting rehabilitation and management of cancer. This course also enables students to develop the skills of communication and critical thinking. It reflects the position of the course convenor that their practice within the field will require these skills for ongoing development.

**How the course relates to other courses in the Exercise Physiology program** – The course will build upon material presented in earlier courses in the program, in particular Exercise Programs and Behaviour (HESC1511), as well as Clinical Exercise Physiology (HESC3541). The skills and knowledge developed in this course will provide a strong base in exercise physiology essential for the clinically oriented practicum courses in stage 4 (HESC4611 and HESC4622).

## Teaching strategies

**Lectures** – Lecture notes are available in PDF format on Moodle:

Lectures are considered by the course convenor to be only a summary of the concepts and theory essential for meeting the course objectives and student learning outcomes outlined above. In order to do well in this course it is **ABSOLUTELY ESSENTIAL** that students make use of other resources such as the recommended and additional textbooks and Web based sources.

**Clinicals and Tutorials** – Students are expected to behave in an ethical, socially responsible and professional manner within the clinical and tutorial class. Punctual arrival is expected as important information including safety precautions are discussed at the beginning of each class and late students will be refused entry and marked as absent. Please turn-off mobile phones before entering

class. The use of computers for work not related to the current laboratory is not permitted in class. Eating is not permitted, however students may bring drinking water in a suitable unbreakable container. Students are required to bring to class, a printed copy of the practical or tutorial which they are to download from MOODLE. It is recommended that students take the time to read the practical or tutorial before coming to the designated session.

**Interactive Tutorial** – Each student will be using an interactive patient management platform, developed within the Smart Sparrow network. Here students will view a real life patient consultation and be directed to critically analyse the information presented by the patient. Students will then be required determine the implications of treatment for engagement in an exercise program, specifically planning an appropriate management strategy that includes the design of a suitable health and fitness assessment and exercise program.

## Assessment

The course covers a significant amount of new material and will require diligence and application to succeed. The learning objectives for each activity provide a focus for study, and should be previewed and reviewed for all activities. Students will take part in (self and peer) assessment together with academic staff.

These tasks have been chosen as tools to enhance and guide your learning as well as a way of measuring performance, and are therefore a central teaching strategy in this course.

Weight		Due Date	
	ASSESSMENT TASK 1 – END OF SESSION EXAMINATION	40%	Week 12
	ASSESSMENT TASK 2 – LECTURE/ TUT QUIZZES	20%	Week 4 & 10
	ASSESSMENT TASK 3 – GROUP ASSIGNMENT	30%	Week 10-11
	ASSESSMENT TASK 4 – E-PORTFOLIO	10%	Week 11

### Assessment Task 1 – END OF SESSION EXAM

The END OF SEMESTER EXAM is a written exam comprised of 45 multiple choice and/or short answer questions. It will cover lecture, tutorial and practical material from weeks 1-9. It will be held in week 12 during the tutorial timeslot (Friday 23<sup>rd</sup> October, 10.00 am), and is of 50 minutes duration (writing time). No extra time will be given to a student who has arrived late to sit the exam. This examination will measure knowledge and concepts learned from all course learning activities including lectures, tutorials and co-curricular classes and accounts for 40% of the final course mark.

## Assessment Task 2 – ON-LINE LECTURE & TUTORIAL QUIZZES

A 15 minute quiz will be held at the start of tutorial 4 & 10. It will cover the learning outcomes from the previous lectures, tutorials and clinicals.

## Assessment Task 3 – GROUP ONCOLOGY CONSULTATION AND EXERCISE PROGRAMMING ASSIGNMENT

The goal of the group assignment report and presentation is to enable and consolidate learning by doing. The students will be required to work in groups of 4, to conduct a client consultation and patient management plan for a cancer patient. The assignment needs to include:

1. a brief introduction to the cancer
2. the completion of a patient consultation to review the patient's cancer, its treatment and other relevant medical history
3. documented evidence of the client consultation
4. the identification of the issues associated with this cancer which will be relevant and must be considered when designing a suitable exercise program.
5. the design of an assessment protocol that addresses the potential issues identified in the patient consultation.
6. Finally, the students must design an exercise program that focusses on the specific exercise needs of the client. Any rehabilitation associated with surgery must be a priority. Other components could include cardiovascular training, strength training and balance training.

Assessing this learning can enhance:

1. the student's conceptual understanding of the theory-practice relationship
2. their higher level reasoning skills
3. the development of their exercise physiology practical competence
4. the development of teamwork

### Submission of Assessment Tasks

Group assignments are to be submitted as an electronic version via MOODLE (Turn it in).

**Penalties for late submission of assignments** – In cases where an extension has NOT been granted, the following penalties will apply:

- For assignments submitted after **9.00am** on the due date, a penalty of 50% of the maximum marks available for that assignment will be incurred.
- Assignments received two (2) or more days after the due time/date **will not be allocated a mark**, however, these assignments **must** still be submitted to pass the unit.

## Marking Criteria for the Group Assignments

Assignment Criteria	Developing (Not Yet Competent)	Basic Competence	Competent	Advanced Competence
<b>Introduction to the Cancer &amp; Its Treatment</b> <ul style="list-style-type: none"> <li>Introduction of the important facts associated with the cancer.</li> </ul>	<ul style="list-style-type: none"> <li>* Was not yet able to provide a summary of the important details and facts associated with the selected cancer type.</li> </ul>	<ul style="list-style-type: none"> <li>* Was able to provide a summary of the important details and facts associated with the selected cancer type.</li> </ul>	<ul style="list-style-type: none"> <li>* Was able to provide an analysis of the important details and facts associated with the selected cancer type.</li> </ul>	<ul style="list-style-type: none"> <li>* Was able to provide a detailed analysis of the important details and facts associated with the selected cancer type.</li> </ul>
<b>Patient Consultation</b> <ul style="list-style-type: none"> <li>Participant details were outlined.</li> <li>A comprehensive patient oncology history was taken.</li> <li>Side effects of the cancer treatment were documented.</li> <li>A comprehensive patient medical history was taken, including comorbidities and medications.</li> <li>A comprehensive documentation of physical activity and exercise habits was completed.</li> </ul>	<ul style="list-style-type: none"> <li>* was not yet able to provide detail of the participants</li> <li>* was not able to provide a detailed oncology history</li> <li>* was not able to detail the side effects of cancer treatment</li> <li>* was not able to provide a detailed medical history</li> <li>* was not able to provide a detailed PA history.</li> </ul>	<ul style="list-style-type: none"> <li>* Demonstrated an ability to provide some demographic data for the participant</li> <li>* was able to provide some details of the oncology history</li> <li>* was able to document the side effects of cancer treatment</li> <li>* was able to document a medical history</li> <li>* was able to document PA history.</li> </ul>	<ul style="list-style-type: none"> <li>* Demonstrated an ability to provide demographic data for the participants</li> <li>* was able to provide documentation of the client's oncology history</li> <li>* was able to document the side effects of cancer treatment</li> <li>* was able to provide a medical history</li> <li>* was able to document PA history.</li> </ul>	<ul style="list-style-type: none"> <li>* Demonstrated an ability to provide detailed</li> <li>* provided a detailed documentation of the clients oncology diagnosis and treatment.</li> <li>* was able to fully document ALL side effects of the cancer and its treatment</li> <li>** was able to provide a detailed and logical medical history</li> <li>* was able to document a comprehensive PA history.</li> </ul>
<b>Construction of a Physiological Assessment</b> <ul style="list-style-type: none"> <li>Physiological capacity assessment was developed from the patient consultation sheet</li> </ul>	<ul style="list-style-type: none"> <li>* was not able to develop a comprehensive physiological patient assessment sheet from the information provided in the consultation.</li> </ul>	<ul style="list-style-type: none"> <li>* was able to develop a physiological patient assessment sheet</li> </ul>	<ul style="list-style-type: none"> <li>* was able to develop a physiological patient assessment sheet from the information provided in the consultation.</li> </ul>	<ul style="list-style-type: none"> <li>* was able to develop a comprehensive physiological patient assessment sheet from the information provided in the consultation.</li> </ul>
<b>Identification of Key Issues of the Cancer</b> <ul style="list-style-type: none"> <li>Identification of the issues associated with the selected cancer, which must be considered when engaging in exercise programming.</li> </ul>	<ul style="list-style-type: none"> <li>* was not able to identify the key issues relevant to the selected cancer which need to be identified when designing exercise programs.</li> </ul>	<ul style="list-style-type: none"> <li>* was able to identify the basic issues relevant to the selected cancer which need to be identified when designing exercise programs.</li> </ul>	<ul style="list-style-type: none"> <li>* was able to identify the key issues relevant to the selected cancer which need to be identified when designing exercise programs.</li> </ul>	<ul style="list-style-type: none"> <li>* was able to identify ALL key issues relevant to the selected cancer which need to be identified when designing exercise programs.</li> </ul>
<b>Exercise Programming Specific to the Cancer</b> <ul style="list-style-type: none"> <li>Based on the information obtained in the patient consultation, a detailed exercise program was developed.</li> <li>The key components of the exercise program were included – such as cardiovascular, strength, balance and cancer specific rehabilitation.</li> <li>A pdf exercise program was developed for use by the participant.</li> </ul>	<ul style="list-style-type: none"> <li>*was not able to develop an appropriate exercise programs for the needs of the client.</li> <li>* was not able to include all of the necessary exercise program components</li> <li>* was not able to develop an exercise program using the on-line exercise programming program.</li> </ul>	<ul style="list-style-type: none"> <li>*was able to develop an appropriate exercise programs for the needs of the client.</li> <li>* was able to include some of the necessary exercise program components</li> <li>* was able to develop a brief exercise program using the on-line exercise programming program.</li> </ul>	<ul style="list-style-type: none"> <li>*was able to develop an appropriate exercise programs for the needs of the client.</li> <li>* was able to include most of the necessary exercise program components</li> <li>* was able to develop an exercise program using the on-line exercise programming program.</li> </ul>	<ul style="list-style-type: none"> <li>*was able to develop a comprehensive exercise programs for the needs of the client.</li> <li>* was able to include ALL of the necessary exercise program components</li> <li>* was able to develop a comprehensive exercise program using the on-line exercise programming program.</li> </ul>

<p><b>Reference, Grammar, Spelling and Overall Presentation.</b></p> <ul style="list-style-type: none"> <li>• APA reference format used in report.</li> <li>• Statements and information in the body of the report referenced.</li> <li>• Adequate number of scientific articles in support of findings</li> <li>• References relevant to topic and current.</li> <li>• Report grammatically correct, with correct spelling</li> <li>• Report professionally presented.</li> </ul>	<ul style="list-style-type: none"> <li>* Aspects of APA style demonstrated but lacked consistency.</li> <li>* was unable to provide evidence of scientific journal references.</li> <li>* was not yet able to produce a grammatically correct, with correct spelling.</li> <li>* not yet able to present a professional report.</li> </ul>	<ul style="list-style-type: none"> <li>* Aspects of APA style demonstrated but lacked consistency.</li> <li>* provided limited evidence of scientific journal references.</li> <li>* was able to produce a grammatically correct, with correct spelling, with only some inconsistency.</li> <li>* demonstrated a basic professional report</li> </ul>	<ul style="list-style-type: none"> <li>* Correct use of APA format throughout report.</li> <li>* statements and concepts were correctly referenced throughout body of writing.</li> <li>* Used relevant scientific journals</li> <li>* Report grammatically correct, correct spelling and professional presentation</li> </ul>	<ul style="list-style-type: none"> <li>* correct use of APA format throughout entire report.</li> <li>* Every statement and concept correctly referenced throughout body of writing.</li> <li>* Used relevant scientific journals</li> <li>* demonstrated use of current journals and references.</li> <li>* Demonstrated an ability to source the latest research in the field.</li> <li>* Report grammatically correct, professional presentation, and correct spelling.</li> </ul>
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## Assessment Task 4 – E-PORTFOLIOS

The ePortfolio is a student self-created and self-managed digital framework where a student will present learning information, achievement and evidence, as well as reflective learning during the session within the course and across courses. The e-Portfolio will include a reflection of the patient consultation (what did you learn from the experience), the design and justification of the health and fitness assessment protocols and the exercise programming developed. This work will be assessed and account for 10% of the final course mark.

### Marking Criteria for the ePortfolio

Assignment Criteria	Developing (Not Yet Competent)	Basic Competence	Competent	Advanced Competence
<b>Overall design and presentation of the portfolio</b> <ul style="list-style-type: none"> <li>Professional presentation including layout and design of the Portfolio</li> </ul>	* Was not yet able to design and present a well-structured portfolio	* Was able to design and present a basic portfolio	* Was able to design and present a well-structured portfolio	* Was able to design and present a well-structured and professional level portfolio
<b>Being a Reflective Practitioner</b> <ul style="list-style-type: none"> <li>Awareness of being a reflective practitioner</li> <li>Ability to identify own strengths and weaknesses as they relate to practice.</li> <li>Was able provide evidence of own learning</li> </ul>	* Was not yet able to provide evidence of being a reflective practitioner  * Was not yet able to identify own strength and weaknesses  * Not yet able to identify and articulate own progress in learning across the course.	* Demonstrated basic evidence of being a reflective practitioner  * Was able to identify own basic strength and weaknesses  * Able to basically identify and articulate own progress in learning across the course.	* Demonstrated evidence of being a reflective practitioner  * Was able to identify own strength and weaknesses  * Able to identify and articulate own progress in learning across the course.	* Demonstrated strong evidence of being a reflective practitioner  * Described own performances with general descriptors of success and failure.  * Effectively able to identify and articulate own progress in learning across the course.
<b>Patient Consultation Competence</b> <ul style="list-style-type: none"> <li>Awareness of the operational side of a patient consultation.</li> <li>Awareness of the patient. Who they were, what there issues and challenges were.</li> </ul>	* was not able to provide evidence of an understanding of the components of a patient consultation	* was able to provide evidence of a basic understanding of the components of a patient consultation	* was able to provide evidence of an understanding of the components of a patient consultation	* was able to provide comprehensive evidence of an understanding of the components of a patient consultation
<b>Clinical Reasoning Competence</b> <ul style="list-style-type: none"> <li>Health &amp; Fitness Assessment Design Competency</li> <li>Exercise Programming Competence</li> </ul>	* was not able to use the information provided and make a reliable judgment based on the information provided	* was able to use the information provided and make a basic judgment based on the information provided	* was able to use the information provided and make a reliable judgment based on the information provided	* was able to extensively use the information provided and make a reliable and comprehensive judgment based on the information provided

## Course schedule HESC 3208, 2015

Wk	Wk	Lecture 1 (1 hr) Mon 13.00-14.00  WW LG03	Lecture 2 (1 hr) Tues 14.00-15.00  Mat ThC	Lecture 3 (1 hr) Thurs 13.00-14.00  WW LG03	Tutorial (1 hr) Friday 10.00-11.00 AGSM Pioneer International Theatre	Clinical (2 hrs) Friday 11.00-13.00 Wallace Wurth G16/G17
1	27th July	L1. Overview of HESC 3208 <i>Pioneer Th</i>  <i>Carolina Sandler</i>	L2. Current progress in cancer biology  <i>Caroline Ford</i>	L3. Colorectal cancer  <i>Luke Hesson</i>	<b>TUT 1: Introduction</b> HESC3208 course assessment Introduction to the Group Assignment	<b>PRAC A: Introduction to e-Portfolio</b> Being a Reflective Practitioner <i>Thuan Thai &amp; CS</i>
2	3rd Aug	L4. Pancreatic cancer  <i>Phoebe Phillips</i>	L5. Ovarian cancer  <i>Caroline Ford</i>	L6. Lung cancer  <i>Paul Thomas</i>	<b>TUT 2: Exercise and Cancer</b> Position Stands. What do we know about exercise & cancer?	No PRAC
3	10th Aug	L7. Glioblastoma  <i>Kerrie McDonald</i>	L8. Breast Cancer  <i>Caroline Ford</i>	L9. Altered Cell Metabolism in Cancer  <i>Anthony Don</i>	<b>TUT 3: – Cancer Patient Consultations</b>	<b>PRAC B: Clinical oncology consultations</b> – determining the implications for exercise engagement.
4	17th Aug	L10. Cancer & Coagulation  <i>Vivien Chen</i>	L11. Principles of cancer surgery  <i>Philip Crowe</i>	L12. Sarcoma  <i>Jia-Lin Yang</i>	<i>QUIZ 1</i> <b>TUT 4: Treatment Related Side Effects</b> Implications for Exercise Participation	<b>PRAC C: Introduction to the virtual patient and on-line case management.</b> The patient consultation.
5	24th Aug	L13. Review Lecture Major Cancer Types HESC3208 <i>Pioneer Th</i> <i>Carolina Sandler</i>	L14. Statistical thinking  <i>Jia-Lin Yang</i>	L15. Prostate cancer  <i>Carl Power</i>	<b>TUT 5: Assessment &amp; Exercise Programming</b> Physiological capacity, PA levels, QoL, mental healthy & sleep efficiency in cancer patients	<b>PRAC D: Health &amp; Fitness Assessments for Oncology Patients</b>
6	31st Aug	L16. Mechanisms of benefit of Exercise on tumor biology & pathophysiology <i>WW G08</i> <i>Carolina Sandler</i>	L17. Personalised cancer therapy & prognostic markers  <i>David Goldstein</i>	L18. Animal models in cancer research  <i>Carl Power</i>	<b>TUT 6: Exercise Programming</b> Introduction to on-line exercise programming	<b>PRAC E: Write your own training program</b> using pro-conditioning

7	7th Sept	L19. Stem Cells and cancer <i>Anchit Khanna</i>	L20. Clinical Trials & study design <i>Barbara-Ann Adelstein</i>	L21. Inherited cancer Predisposition <i>Kathy Tucker</i>	<b>TUT 7: Specialised Programming</b> for Neuropathy <i>Susanna Park</i>	<b>PRAC F:</b> On-line exercise programming session for your client
8	14th Sept	L22. Cancer Therapeutics <i>Philip Hogg</i>	L23. Epidemiology, risk factors and environmental carcinogenesis <i>Claire Vajdic</i>	L24. Radiotherapy and functional imaging <i>Michael Jackson</i>	<b>TUT 8: Specialised Programming</b> Cardiomyopathies & Lymphodema	<b>PRAC G:</b> Surgery POWH Clinical School
9	21st Sept	L25. Nano-oncology & theranostics <i>Martina Stenzel</i>	L26. Principal of chemotherapy <i>Melvin Chin</i>	<b>TUT 9: Specialised Programming</b> for Post Cancer Fatigue <i>Carolina Sandler</i> <b>WW LG02</b>		<b>PRAC H1:</b> Radiation Therapy Practices (1/2 group) *
<b>Mid Semester Break</b>						
10	5th Oct	Labour Day	Group Presentation 1 <i>Matthews C</i>	Group Presentation 2 <b>WW LG02</b>	<b>QUIZ 2</b> <b>TUT 10:</b> Consultations with Tutor e-Portfolio Session WW G16-17	<b>PRAC H2:</b> Radiation Therapy Practices (1/2 group) *
11	12th Oct	Group Presentation 3 / revision lecture <b>CLB2</b>			<b>e-Portfolio DUE 16<sup>th</sup> Oct</b>	<b>PRAC I:</b> Visit Chris O'Brien Lifehouse. Cancer Survivor Centre
12	19th Oct				<b>End of Course Exam</b> 23 <sup>rd</sup> October, 2014	

Please note that there may be some slight alterations to the above schedule.

- NOTE: Changes in the timetable will be announced on Moodle course site.
- NOTE 2: the visit to the oncology radiation department can only occur on a Friday afternoon, due to access to an operational department of the hospital.

