

PHAR2101: Dermatology and Topical Formulations

Callaghan

Semester 2 - 2023



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

OVERVIEW

Course Description

Presents the pathophysiology of altered health states and their management including both pharmacological and non-pharmacological interventions. Specific conditions covered in this course include dermatological disorders, including dermatitis, psoriasis, fungal, acne and bites. The course considers aspects of pharmacy practice including a systematic review of prescription and non-prescription medications and complementary and alternate medicines, which will address the quality use of medicines in the treatment of these conditions.

The course builds on student's existing knowledge and understanding of the physical pharmacy principles. It provides students with an understanding of how these principles are applied to the preparation of liquid and semi-solid dosage forms used for topical application of medications including creams, ointments, gels, colloids, transdermal preparations and sunscreen formulations. The stability of these drug products and factors influencing the storage and shelf life of products is included in this course.

Requisites

This course is only available to students enrolled in the Bachelor of Pharmacy (Honours) [12328] program and have successfully completed PHAR1101, PHAR1201, HUBS1403 and HUBS1404.

Contact Hours

Callaghan

This course will apply an innovative "flipped" approach to the delivery of the material. The core content for the course will be delivered through online activities. Face-to-face tutorials will be used to reinforce the information using an applied clinical approach. Workshops will be used to deliver specialist material from guest lecturers.

Lecture

Online

3 hour(s) per Week for 12 Weeks

Tutorial

Face to Face On Campus

2 hour(s) per Week for 12 Weeks

Workshop

Face to Face On Campus

3 hour(s) per Term Full Term

This will include an in term exam & Revision session

Unit Weighting Workload

10

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

www.newcastle.edu.au

CRICOS Provider 00109J

CONTACTS

Course Coordinator	Callaghan Dr Peter Miller pmiller1@newcastle.edu.au Consultation: By email for an appointment
Teaching Staff	Other teaching staff will be advised on the course CANVAS site.
School Office	School of Biomedical Sciences and Pharmacy MS607 Medical Sciences Building Callaghan Biomedsci-Admin@newcastle.edu.au 02 492158679 or 49212058 8:30am-5pm (Mon-Fri)

SYLLABUS

Course Content	<ol style="list-style-type: none">1. This course will cover the pathophysiology, therapeutic treatment and pharmacy practice issues in the management of:<ul style="list-style-type: none">- Dermatological disorders (including psoriasis; acne; eczema and contact dermatitis; seborrhoeic dermatitis; rosacea; nappy rash; bites and stings; drug induced skin disorders; allergies; photodermatoses including sunburn; minor bacterial, fungal and viral skin infections; burns and wound care).2. The concept of minor illness and major disease will be discussed, including the use of prescription and non-prescription products, including Complementary and Alternate Medicines. Non-pharmacological approaches to the management of these conditions will also be discussed.3. The course covers advanced concepts in formulation development and design of topical preparations including:<ul style="list-style-type: none">- Sterile products, aseptic technique, microbial contamination, spoilage and preservation, principles of sterilisation and storage considerations.- Topical dosage forms including creams, ointments, gels, colloids and transdermal preparations.- Sunscreen formulations.4. Concepts relating to ageing of the skin.
Course Learning Outcomes	<p>On successful completion of this course, students will be able to:</p> <ol style="list-style-type: none">1. Describe the pathophysiology and management of dermatological disorders, including dermatitis, psoriasis, minor skin infections and acne.2. Describe the quality use of medicines' issues surrounding these therapeutic agents in the treatment of these diseases and continue to develop clinical skills and communication skills in the therapeutic management of these conditions.3. Develop skills in the use and recommendation of non-prescription medications and advice on non-pharmacological treatment options available in the management of these conditions.4. Identify the principles of drug stability and discuss pharmacy practice issues relating to storage of topical drug products.5. Describe the formulation and manufacture of topical dosage forms and sterile drug products including creams, ointments, gels, colloids, transdermal preparations and sunscreen formulations.

Course Materials

Recommended Text:

- Essentials of Pathophysiology: Concepts of Altered Health States. (5th edition)
Carol Porth et. al. Lippincott Williams & Wilkins
<http://pharmacy.lwwhealthlibrary.com.ezproxy.newcastle.edu.au/book.aspx?bookid=1008>
- Applied Therapeutics: The Clinical Use of Drugs. (10th edition) Brian K Alldredge et. al. Lippincott Williams & Wilkins
<http://pharmacy.lwwhealthlibrary.com.ezproxy.newcastle.edu.au/book.aspx?bookid=721>
- Australian Pharmaceutical Formulary and Handbook (25th edition) Pharmaceutical Society of Australia
- Australian Medicines Handbook (2022/2023 (preferred))
<https://amhonline-amh-net-au.ezproxy.newcastle.edu.au/>
- Therapeutic Guidelines
<https://tgldcdp-tg-org-au.ezproxy.newcastle.edu.au/etgAccess>

COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

Course Assessment Requirements:

- Assessment 1 - Formal Examination: Pass Requirement - Students must pass this assessment item to pass the course. Students must pass a combination of the in-term and formal examination and pass the course overall to be able to pass the course
- Assessment 2 - In Term Test: Pass Requirement - Students must pass this assessment item to pass the course. Students must pass a combination of the in-term and formal examination and pass the course overall to be able to pass the course.

ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Written exam*	Formal Exam period	Individual	50%	1, 2, 3, 4, 5
2	Examination Class*	Wk 9 Mon 11 th Sept 9am MS202	Individual	35%	1, 2, 3, 4, 5
3	In Term Quiz	Week 5 and Week 11 at midnight	Individual	15%	1, 2, 3, 4, 5

* This assessment has a compulsory requirement.

Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Written exam

Assessment Type	Formal Examination
Weighting	50%
Compulsory Requirements	Pass Requirement - Students must pass a combination of the in-term and the formal examination and pass the course overall to be able to pass the course.
Due Date	Formal Exam Period
Submission Method	Invigilated formal exam
Assessment Criteria	This is a RESTRICTED OPEN BOOK examination. A memory aid can be brought into the exam, this will be collected by Examinations / does not leave the exam venue. Format: 1 x A4 sheet; both sides; drawings permitted, own work; any size font. This 2 hour examination will consist of Multiple Choice questions and Short Answer

Return Method
Opportunity to
Reattempt

Questions. The short answer questions may be related to a case study and/or involve calculations.

Not returned

Students WILL NOT be given the opportunity to reattempt this assessment.

In order to demonstrate that a student has fulfilled the course objectives relating to the understanding of the material expounded during lectures, students must satisfactorily pass a combination of the in-term examination and the final examination in order to be able to pass the course overall. On achieving a passing grade, a final mark will be given in the course and it will be recorded that the student has satisfied the compulsory course component. Students will have feedback on their performance from in term assessment so will have had opportunities for remediation prior to the formal assessment so students who fail to satisfy the compulsory course component will be awarded a CF grade, irrespective of their final numeric mark.

Assessment 2 – Examination Class

Assessment Type
Weighting
Compulsory
Requirements
Due Date
Submission Method
Assessment Criteria

In Term Test

35%

Pass Requirement - Students must pass a combination of the in-term and the formal examination and pass the course overall to be able to pass the course.

Week 9 Mon 11th Sept 9am MS202

In Class

This is a CLOSED BOOK examination and no notes are permitted.

This 1-hour examination will consist of Multiple Choice questions and Short Answer Questions. The short answer questions may be related to a case study and/or involve calculations.

Examination content:

- 1) Online lectures for weeks 1,2,3, 4, 5 and 6 inclusive
- 2) Tutorials for weeks 1,2,3,4, 5, 6 and 7 inclusive

Return Method
Feedback Provided
Opportunity to
Reattempt

Students WILL NOT be given the opportunity to reattempt this assessment.

In order to demonstrate that a student has fulfilled the course objectives relating to the understanding of the material expounded during lectures, students must satisfactorily pass a combination of the in-term examination and the final examination in order to be able to pass the course overall. On achieving a passing grade, a final mark will be given in the course and it will be recorded that the student has satisfied the compulsory course component. Students will have feedback on their performance from in term assessment so will have had opportunities for remediation prior to the formal assessment and students who fail to satisfy the compulsory course component will be awarded a CF grade, irrespective of their final numeric mark.

Assessment 3 - In Term Quizzes

Assessment Type
Weighting
Due Date
Submission Method
Assessment Criteria

In Term Quizzes (Two)

15% (7.5% and 7.5%)

At midnight, Friday 18/8 (week 5) and Friday 13/10 (week 11)

Online

MCQs

Examination content: Online lectures and tutorials for weeks 1 to 4 (inclusive) and weeks 7 to 10 (inclusive)

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Communication Methods

Communication methods used in this course include:
CANVAS and email.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Oral Interviews

As part of the evaluation process of any assessment item in this course an oral examination may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination Guidelines](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s).
All Applications for special consideration due to adverse circumstances are to be made using the online Adverse Circumstances system.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:
<https://policies.newcastle.edu.au/document/view-current.php?id=236>

Important Policy Information

The 'HELP for Students' tab in UoNline contains important information that all students should be familiar with, including various systems, policies and procedures.

ACTIVITY SCHEDULE

Week 1 (17 Jul - 21 Jul)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 1: Physiology & aging of the skin	
			Online activity 2: Dermatitis 1	
			Online activity 3: Dermatitis 2	
21 Jul	11-1pm 2-4pm	SRG03	TUTORIAL: Dermatology – terminology & counselling	Peter Miller
Week 2 (24 Jul – 28 Jul)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 4: Dermatitis 3	
			Online activity 5: Dermatitis 4	
			Online activity 6: Psoriasis	
28 Jul	11-1pm 2-4pm	SRG03	TUTORIAL: Atopic dermatitis	Peter Miller
Week 3 (31 Jul – 4 Aug)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 7: Bacterial skin infections 1	
			Online activity 8: Bacterial skin infections 2	
			Online activity 9: Viral skin infections 1	
4 Aug	11-1pm 2-4pm	SRG03	TUTORIAL: Dermatitis	Peter Miller
Week 4 (7 Aug – 11 Aug)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 10: Viral skin infections 2	
			Online activity 11: Viral skin infections 3	
			Online activity 12: Fungal skin infections 1	
11 Aug	11-1pm 2-4pm	SRG03	TUTORIAL: Psoriasis	Peter Miller
Week 5 (14 Aug – 18 Aug)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 13: Fungal skin infections 2	
			Online activity 14: Acne & Rosacea 1	
			Online activity 15: Acne & Rosacea 2	
18 Aug	11-1pm 2-4pm	SRG03	TUTORIAL: Skin infections 1	Peter Miller
Online Quiz 1 opens 12 noon 18th Aug and closes midnight 18th Aug				

Week 6 (21 Aug – 25 Aug)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 16: Perioral dermatitis	
			Online activity 17: Sun safety, sunscreens & sunburns	
			Online activity 18: Skin cancer 1	
25 Aug	11-1pm 2-4pm	SRG03	TUTORIAL: Skin infections 2	Peter Miller
Week 7 (28 Aug – 1 Sep)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 19: Skin cancer 2	
			Online activity 20: Photodermatoses & drug eruptions	
			Online activity 21: Lice & Scabies 1	
1 Sep	11-1pm 2-4pm	SRG03	TUTORIAL: Acne, rosacea & perioral dermatitis	Peter Miller
Week 8 (4 Sep – 8 Sep)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 22: Lice & Scabies 2	
			Online activity 23: Bites & Stings	
			Online activity 24: Burns	
8 Sep	11-1pm 2-4pm	SRG03	TUTORIAL: Sun safety & skin cancer	Peter Miller
Week 9 (11 Sep – 15 Sep)				
Date	Time	Location	Topic	Contact lecturer
11 Sep	9-11am	MS202	IN TERM EXAM	Peter Miller
15 Sep	11-1pm 2-4pm	SRG03	TUTORIAL: Photodermatoses & drug eruptions; lice & scabies	Peter Miller
Week 10 (18 Sep – 22 Sept)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material in preparation for the upcoming tutorial. If you have any questions about this material, contact the staff member listed.			Online activity 25: Wound management & dressings	
			Online activity 26: Hair growth & alopecia	
			Online activity 27: Skin barriers to topical drug delivery	
22 Sep	11-1pm 2-4pm	SRG03	TUTORIAL: Bites & stings; burns; wound management; hair growth & alopecia	Peter Miller
RECESS : 25 SEPTEMBER – 6 OCTOBER				

Week 11 (9 Oct – 13 Oct)				
Date	Time	Location	Topic	Contact lecturer
This week you need to watch and study the content of the following online material. If you have any questions about this material, contact the staff member listed.			Online activity 28: Considerations for topical treatment of skin conditions	
			Online activity 29: Considerations for topical formulations	
			Online activity 30: Considerations for transdermal formulations	
13 Oct	11-1pm 2-4pm	SRG03	TUTORIAL: Mixed dermatological cases	Peter Miller
Online Quiz 2 opens 12 noon 13 th Oct and closes midnight 13 th Oct				
Week 12 (16 Oct – 20 Oct)				
Date	Time	Location	Topic	Contact lecturer
20 Oct	9-10am	VG10	Revision	Peter Miller
20 Oct	11-1pm 2-4pm	SRG03	TUTORIAL: Mixed dermatological cases	Peter Miller
EXAMINATION PERIOD 30 OCT – 11 NOV				
RESCHEDULED PERIOD 11 DEC – 15 DEC				

***Please note that all students are expected to be available during BOTH formal and rescheduled exam periods. In the event that you have an approved rescheduled exam, this will be held in the rescheduled exam period. If you have made plans to travel or work during that period, you will not be offered another opportunity to sit the examination.**

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.

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