PMSC13003 *Pharmacology in Paramedic Practice*
Term 1 - 2018

Profile information current as at 29/04/2024 09:55 pm

All details in this unit profile for PMSC13003 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview
You will develop an understanding of pharmacotherapy in paramedic practice through investigation of the appropriate use of pharmacological interventions in patient management. You will develop knowledge of specific medications common to patients requiring care by paramedics, as well as skills to calculate medication dosages through a series of coursework and case management exercises.

Details
Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
Pre requisites: PMSC12001 Procedures and Skills in Paramedic Care and Co requisites: PHRM19001 Pharmacology and Toxicology or BMSC13010 Pharmacology
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2018

- Distance

Attendance Requirements
All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website
This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Presentation and Written Assessment**
Weighting: 50%
2. **Online Quiz(zes)**
Weighting: 25%
3. **Online Quiz(zes)**
Weighting: 25%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Self Reflection & Unit Evaluations.

Feedback
Quiz questions were not easy to understand and the answer boxes were too small.

Recommendation
The layout and wording of quiz questions should be reviewed to ensure that all questions are easy to understand and no misconceptions can be drawn. The quizzes will be reviewed to ensure that appropriate length answer boxes are available for all questions.

Feedback from Unit Evaluations.

Feedback
Shorter Lectures were great.

Recommendation
Continue to record shorter lectures each week.

Feedback from Unit Evaluations.

Feedback
Uploading drug calculation worksheets.

Recommendation
Drug calculations worksheets together with other resources were uploaded onto the Moodle page at the start of term to assist students with these tasks. It is recommended that a welcome video is recorded which outlines the content of the Moodle page and resources available to students.

Feedback from Students emails and Unit Evaluations.

Feedback
Drug calculation quiz was very challenging, not necessary and there was not enough time to complete them.

Recommendation
Drug calculations are an integral component of paramedic practice. The drug calculation quiz was designed to challenge the students in a manner similar to current practices in industry. Without adequate knowledge and skills in this area, there is a real risk of overdosing patients which can lead to adverse outcomes. Drug calculations need to be completed in a timely manner, and this was explained to the students at various points throughout the term. A short video explaining the assessment tasks is recommended, this should include detail on why drug calculations need to be completed.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Describe the indications, pharmacokinetics, actions, routes of administration, contraindications, side effects and precautions of medications and fluids administered by paramedics, and how you would evaluate the effects of administration
2. Correctly calculate drug doses for the administration of paramedic medications
3. Discuss the implications of renal or hepatic dysfunction, pregnancy and extremes of age on drug administration in the paramedic context
4. Research and justify the most effective pharmacological treatment options in the pre-hospital context.

1. The educational institution **must** demonstrate it has developed a paramedic education course that provides students with the educational base for a graduate appropriate to the level of qualification to be attained, the specified level of competence to meet the requirements for employment as an entry level paramedic.
2. The educational course / curriculum requirements for work readiness **must** be determined by the curriculum / course development committee through consultation with all major stakeholders in particular, the principal ambulance services in Australia and New Zealand represented by the CAA.
3. The educational couse / curriculum requirements to meet the work readiness requirements of the principal ambulance services in Australia and NZ and **should** be reviewed on a regular basis as part of a formal paramedic education course review process.
4. Given the complex nature of out of hospital, unscheduled care and the diversity of health care situations encountered, Paramedics **must** be well educated, skilled and knowledgeable practitioners in a range of subjects and be able to appraise and adopt an enquiry-based approach to the delivery of care
5. Paramedic education courses **should** produce graduates with an educational base and attributes appropriate to the level of qualification attained and specified level of competence required. These objectives and attributes **must** be clearly described for each course being assessed.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level · Introductory Level · Intermediate Level · Graduate Level · Professional Level · Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Presentation and Written Assessment - 50%	•			•
2 - Online Quiz(zes) - 25%		•		
3 - Online Quiz(zes) - 25%	•		•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication	•		•	•
2 - Problem Solving			•	•

Graduate Attributes	Learning Outcomes			
	1	2	3	4
3 - Critical Thinking	•	•	•	•
4 - Information Literacy	•		•	•
5 - Team Work				
6 - Information Technology Competence	•		•	•
7 - Cross Cultural Competence				
8 - Ethical practice	•			•
9 - Social Innovation				
10 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Presentation and Written Assessment - 50%	•	•	•	•		•		•		
2 - Online Quiz(zes) - 25%			•	•						
3 - Online Quiz(zes) - 25%	•	•	•	•				•		

Textbooks and Resources

Textbooks

PMSC13003

Prescribed

Pharmacology for Health Professionals 4e
Edition: 4 (2015)
Authors: Bronwen J Bryant & Kathleen M Knights
Elsevier
Chatswood , NSW , Australia
ISBN: 9780729541701
Binding: Paperback

Additional Textbook Information
The prescribed textbook includes free access to the Evolve Learning System supplementary online learning content for this title. Students are strongly encouraged to access this material and to complete the quizzes and other activities to support their learning. Please review the access information on the inside cover of the textbook for url and further details.

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: American Psychological Association 6th Edition (APA 6th edition)
For further information, see the Assessment Tasks.

Teaching Contacts

Lisa Hurring Unit Coordinator
l.hurring@cqu.edu.au

Schedule

Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
• Dosage measurements and drug calculations • Review of drug pharmacokinetics, legal & ethical considerations in pharmacology	Text: Chapter 1 – dosage measurements and calculations pp.21-30 Text: Chapter 6 – drug absorption, distribution, metabolism & excretion pp.141-161	

Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic

The essentials • Oxygen • Sodium chloride 0.9% • Water for injection The home pharmacy Street drugs	QAS DTP's: oxygen, sodium chloride 0.9%, water for injection Text: Chapter 28 – pp.605-608, Chapter 21 - pp.440-483 ARC Guideline 11.6.1	

Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Special Considerations • Pregnancy • Paediatrics • Geriatrics • Renal failure • Hepatic dysfunction • The effects of shock	Text: Chapter 9 pp.189-202	

Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Analgesics • Fentanyl • Methoxyflurane • Morphine • Paracetamol • Ibuprofen	QAS DTP's: fentanyl, methoxyflurane, morphine, paracetamol, Ibuprofen Text: Chapter 15, fentanyl p.324, methoxyflurane p.38 & p.284, morphine p.322, paracetamol p.67 & p.329	

Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
CNS Drugs & Antibiotics • Midazolam • Naloxone • Ceftriaxone • Droperidol	QAS DTP's: ceftriaxone, droperidol, midazolam, naloxone Text: midazolam p.347, naloxone p.328, ceftriaxone pp.931-3, droperidol pp.388-9	

Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Cardiovascular Drugs • GTN • Adrenaline Anti-platelets: • Aspirin • Clopidogrel • Ticagrelor Anti-coagulants: • Enoxaparin • Heparin Fibrinolytics: • Tenecteplase	QAS DTP's: aspirin, clopidogrel, ticagrelor, enoxaparin, heparin, tenecteplase, adrenaline, GTN Text: aspirin pp.329-330, clopidogrel & ticagrelor p.585, enoxaparin p.578, heparin p.577, tenecteplase p.58, adrenaline pp.235-241 (including review of SNS), glyceryl trinitrate pp.513-518 (including review of vascular smooth muscle)	

Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic

Endocrine & Anti-emetic Drugs • Glucagon • Glucose gel • Glucose 10% • Ondansetron	QAS DTP's: glucagon, glucose gel, glucose 10%, ondansetron, Text: glucagon p.764, ondansetron p.653	

Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Respiratory Drugs • Salbutamol • Hydrocortisone • Ipratropium bromide	QAS DTP's: hydrocortisone, salbutamol, ipratropium bromide Text: hydrocortisone pp.745-749, ipratropium bromide p.61, salbutamol p.615	**Written assessment & presentation** Due: Week 8 Friday (4 May 2018) 11:45 pm AEST

Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Other drugs • Hydroxocabalamin • Loratadine • Magnesium sulphate • Box Jellyfish Antivenom • Oseltamivir • Oxytocin	QAS DTP's: lignocaine 1%, magnesium sulphate, box jellyfish antivenom, oseltamivir, oxytocin, hydroxocabalamin, Text: magnesium sulphate p.1089, box jellyfish antivenom pp.1088-9, oseltamivir p.954, oxytocin p.723-4,	**Drug calculation quiz** Due: Week 9 Friday (11 May 2018) 11:45 pm AEST

Week 10 - 14 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
• General pharmacology in paramedicine • What to do *if*...	No assigned reading; use this time to ensure learning and assessment tasks are completed.	

Week 11 - 21 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
• CCP drugs	No assigned reading; use this time to ensure learning and assessment tasks are completed.	**Pharmacology quiz** Due: Week 11 Friday (25 May 2018) 11:45 pm AEST

Week 12 - 28 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Revision & any last minute concerns	No assigned reading; use this time to revise and post any ongoing questions to the forum.	

Review/Exam Week - 04 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Written assessment & presentation

Assessment Type
Presentation and Written Assessment

Task Description
Background:
Ambulance services have historically followed a medical model for determining future clinical direction, often deferring to a medical advisory board or medical director to determine suitable new skills, procedures, or pharmacology. Since the

introduction of tertiary paramedic education, and due to the increasing professionalisation of our discipline, there has been a shift in thinking towards paramedics researching and determining their own destiny in a clinical sense. It is therefore becoming an important skill for paramedics to be able to look at current research and new trends, and to analyse the evidence base to determine whether or not this research should influence our practice, or whether a new skill, procedure, or pharmacology should be adopted into use.

Task introduction:
You have been tasked by a medical advisory board to review and propose the introduction of a new drug into the already extensive armament of drugs on offer in your chosen ambulance service. You can either choose a completely new drug not currently used by your service or you can research a drug currently used by another ambulance service for introduction into your service.
The drug you choose must be approved by the Therapeutic Goods Administration of Australia (TGA), not the FDA or any other international agency. If you choose a drug already used by another service please note that you cannot simply alter the indications or the route of administration for that drug - this is not sufficient for this task. The medical advisory board would like for you to report on the introduction of this drug into the ambulance service and therefore require two parts to this proposal as follows:

PART A: Literature review (25%)
You are required to review recent (no greater than 5-10 years) literature for research articles (aim for a minimum of 5 articles) in relation to this drug of choice. Seek literature related to the context of use, i.e. suitability of this drug for use in the pre-hospital / emergency medicine setting.
You will review the information within this literature, critique, and discuss the findings. As a minimum your report should include the following:

- Introduction: Your report aim
- Research methodology: Identify the search methodology and which databases you used
- Discussion: What conclusions can be drawn from the studies? Discuss the implications of introducing this drug into paramedic practice, for example, do you need to cease the use of one drug for the introduction of another? Are there any cost/equipment implications?
- Drug Therapy Protocol: Develop a new DTP for your drug of choice. This may be included within the body of your report or as an appendix.
- Conclusion: Summarise your findings and state your recommendations.

PART B: Poster presentation (25%)
Using the information collected in Part A, you are required to develop a scientific poster about your drug of choice. Approach this as though intending for the poster to be posted around ambulance stations, i.e. providing general information on the new drug and the research underlying its introduction into the DTPs, as an informational and visual adjunct to training.
There is no specific word limit here, as you will be using the information gained in Part A; do remember though that information on posters must be concise and clear, as a summary of the most pertinent information, and that too much text will overwhelm and decrease impact.

Assessment Due Date
Week 8 Friday (4 May 2018) 11:45 pm AEST

Return Date to Students
Week 10 Friday (18 May 2018)

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
A marking rubric for both parts of this assessment task together with exemplar material will be provided on the Moodle page for reference. This task is worth 50% of your overall mark.

Part A: Literature review (25%)

- Presentation and layout: information presented in a clear & logical sequence; content clearly written; appropriate word count; abbreviations & diagrams used appropriately
- Questions: selected drug meets criteria; most current literature used; introduction; discussion of research design & data; implications of introducing the drug; recommendations
- Drug therapy protocol: developed appropriately; all information included; effective layout; sources acknowledged
- Referencing: all sources referenced appropriately.

Part B: Poster presentation (25%)

- Presentation: Excellent presentation of the scientific poster in terms of organised layout, use of visual aspects
- Information Gathering: Full review of available literature from all sources relevant to the assignment. Comprehensive knowledge of the subject matter
- Scholarliness: Clear statement of objectives, persuasive and comprehensive matter
- Grammar: Work presented to a high grammatical standard with 2 or less grammatical errors
- Referencing: Consistently accurate with in text and referencing list protocols in line with the APA system of referencing.

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)

Submission
Online

Learning Outcomes Assessed

- Describe the indications, pharmacokinetics, actions, routes of administration, contraindications, side effects and precautions of medications and fluids administered by paramedics, and how you would evaluate the effects of administration
- Research and justify the most effective pharmacological treatment options in the pre-hospital context.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

2 Drug calculation quiz

Assessment Type
Online Quiz(zes)

Task Description
For this assessment task you are required to complete an online quiz. The quiz will be made up of case based management exercises that include drug calculations in accordance with the Queensland Ambulance Service Drug Therapy Protocols.
The quiz will become available in Week 7, and must be completed by Friday of Week 9. You will have a specific time limit imposed to complete the quiz.

Number of Quizzes
1

Frequency of Quizzes
Other

Assessment Due Date
Week 9 Friday (11 May 2018) 11:45 pm AEST

Return Date to Students
Week 11 Friday (25 May 2018)

Weighting
25%

Minimum mark or grade
50%

Assessment Criteria

- You will be required to answer each question at an Advanced Care Paramedic Two level (ACP2).
- In order to achieve the full marks allocated to that question you must complete the question fully and you must include any drug calculations in your answer.
- Please ensure that you read the question carefully. Some questions may ask you to give your answer as a dosage or as a volume to be given to the patient.

- This quiz is worth 25% of your overall mark.
- You must achieve a minimum pass mark of 50% to pass this assessment.
- You will only be given one attempt for this quiz.
- You will have a time limit of 90 minutes to complete the quiz.
- For this assessment task no late submissions will be accepted and the quiz will become unavailable after the due date and time.
- In the absence of an approved extension, there will be no opportunity to complete the task after this date, nor opportunity to apply a late penalty of five percent per day.

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)

Submission
Online

Learning Outcomes Assessed

- Correctly calculate drug doses for the administration of paramedic medications

Graduate Attributes

- Critical Thinking
- Information Literacy

3 Pharmacology quiz

Assessment Type
Online Quiz(zes)

Task Description
For this assessment task you will complete an online quiz. The quiz comprises short answer questions related to the material offered in this unit. Where drug calculations are required these will be in accordance with the Queensland Ambulance Service Drug Therapy Protocols at ACP2 level.
The quiz will become available in Week 10, and must be completed by Friday of Week 11. You will have a specific time limit imposed to complete the quiz.

Number of Quizzes
1

Frequency of Quizzes
Other

Assessment Due Date
Week 11 Friday (25 May 2018) 11:45 pm AEST

Return Date to Students
Review/Exam Week Friday (8 June 2018)

Weighting
25%

Minimum mark or grade
50%

Assessment Criteria

- You will be required to answer each question at an Advanced Care Paramedic Two level (ACP2).
- In order to achieve the full marks allocated to that question you must complete the question fully and you must include any drug calculations in your answer.
- Please ensure that you read the question carefully. Some questions may ask you to give your answer as a dosage or as a volume to be given to the patient.
- This quiz is worth 25% of your overall mark.
- You must achieve a minimum pass mark of 50% to pass this assessment.
- You will only be given one attempt for this quiz.
- You will have a time limit of 90 minutes to complete the quiz.
- For this assessment task no late submissions will be accepted and the quiz will become unavailable after the due date and time.
- In the absence of an approved extension, there will be no opportunity to complete the task after this date, nor opportunity to apply a late penalty of five percent per day.

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)

Submission
Online

Learning Outcomes Assessed

- Describe the indications, pharmacokinetics, actions, routes of administration, contraindications, side effects and precautions of medications and fluids administered by paramedics, and how you would evaluate the effects of administration
- Discuss the implications of renal or hepatic dysfunction, pregnancy and extremes of age on drug administration in the paramedic context

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem