School of Chemistry

CHEM944: Advanced Topics in Medicinal Chemistry

Subject Outline
Autumn, 2016
On-Campus
Wollongong

Subject Information
Credit Points: 12
Pre-requisite(s): Nil
Co-requisite(s): Nil
Restrictions: Nil
Contact Hours: 42 hours of lectures

Subject Contacts
Subject Coordinator/Lecturer

<table>
<thead>
<tr>
<th>Name:</th>
<th>A/PR Paul Keller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Building 18, Room 222</td>
</tr>
<tr>
<td>Telephone:</td>
<td>61 2 4221 4692</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:paul_keller@uow.edu.au">paul_keller@uow.edu.au</a></td>
</tr>
<tr>
<td>Consultation mode and times:</td>
<td>Email for appointment or Day, Time</td>
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</tbody>
</table>

Student Support and Advice
For general enquiries please contact StudentHub 41:

Location: 41.138B
Telephone: 61 2 4221 3492
Email: smah-students@uow.edu.au
Student Consultation and Communication

University staff receive many emails each day. In order to enable them to respond to your emails appropriately and in a timely fashion, students are asked to observe basic requirements of professional communication:

Please ensure that you include your full name and student number and identify your practical class or tutorial group in your email so that staff know who they are communicating with and can follow-up personally where appropriate.

Consider what the communication is about

- Is your question addressed elsewhere (e.g. in the subject outline or, on the eLearning site)?
- Is it something that is better discussed in person or by telephone? This may be the case if your query requires a lengthy response or a dialogue in order to address. If so, see consultation times above and/or schedule an appointment.
- Are you addressing your request to the most appropriate person?

Specific email subject title to enable easy identification of issue

- Identify the subject code of the subject you are enquiring about (as staff may be involved in more than one subject) put this in the email subject heading. Add a brief, specific query reference after the subject code where appropriate.

Professional courtesy

- Address the staff member appropriately by name (and formal title if you do not yet know them).
- Use full words (avoid 'text-speak' abbreviations), correct grammar and correct spelling.
- Be respectful and courteous.
- Allow 3 – 4 working days for a response before following up. If the matter is legitimately urgent, you may wish to try telephoning the staff member (and leaving a voicemail message if necessary) or inquiring at the School Office.
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Section A: General Information

Subject Learning Outcomes
On successful completion of this subject, students will be able to:

1. have an understanding of design processes for drug design,
2. have an understanding of advanced drug discovery techniques, and
3. have an understanding of the design of radiopharmaceuticals and advanced pharmacology

Subject Description
This is a specialist subject in aspects of medicinal chemistry and related areas. Topics can include: structure-based ligand design (including computer-aided drug design); structure-pharmacological property relationships; synthesis and applications of radiopharmaceuticals; drug stability and formulation; toxicology and metabolism; advanced synthetic chemistry (including asymmetric synthesis and chiral drugs); bioactive natural products and drug development (including medicinal plant studies), toxicology and advanced proteomics.

eLearning Space
This subject does not utilise eLearning

Lecture, Tutorial, Laboratory Times
All timetable information is subject to variation. Check latest timetabling information on the 'Current Student' webpage on UOW website or log into SOLS to view your personal timetable prior to attending classes. [http://www.uow.edu.au/student/index.html](http://www.uow.edu.au/student/index.html)


Readings, References and Materials

Textbooks
The following text(s) will need to be purchased by students enrolled in this class.

Nil

Prescribed Readings (includes eReadings)
Students are expected to build on lecture material through the use of reputable online and library resources to expand their knowledge.

Materials
Nil

Recommended Readings
The following references complement the prescribed readings and textbooks:

Nil

Recommended readings are not intended as an exhaustive list, students should use the Library catalogue and databases to locate additional resources.
Recent Changes to this Subject
i. Nil

List of Topics Covered
The following are examples of the topics to be covered in this course. This is not an exhaustive list and will be subject to change.

Lecture Topics
- Radiopharmaceuticals
- Drug Design and the Synchrotron
- Function-Structure-Dynamics Relationships of Proteins Dihydrofolate reductase a Prime Model
- Drug Design Target Determination by X-ray Analysis
- Computational Chemistry and Drug Design
## Section B: Assessment

### Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Form of Assessment</th>
<th>Due Date</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1</td>
<td>Exam</td>
<td>Week 4</td>
<td>33%</td>
</tr>
<tr>
<td>Assessment 2</td>
<td>Exam</td>
<td>Week 8</td>
<td>33%</td>
</tr>
<tr>
<td>Assessment 3</td>
<td>Exam</td>
<td>Week 13</td>
<td>33%</td>
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</tbody>
</table>

*Each Assessment is worth one third of the overall mark for this subject.*

### Details of Assessment Tasks

Assessment tasks will be marked using explicit criteria that will be provided to students prior to submission.

Note: Individual lecturers may opt for assessment by assignment replacing an exam question. Students will be notified of assessment format at the beginning of each block of lectures.

#### Assessment 1
- **Exam**
- **Due date**: Week 4
- **Weighting**: 33%
- **Submission**: Exam papers and answers must be submitted at the conclusion of the exam.
- **Type of Collaboration**: Individual Assessment
- **Length**: 2 questions
- **Details**: Content of exam refers to lectures in block one only.
- **Style and format**: Exam

#### Assessment 2
- **Exam**
- **Due date**: Week 8
- **Weighting**: 33%
- **Submission**: Exam papers and answers must be submitted at the conclusion of the exam.
- **Type of Collaboration**: Individual Assessment
- **Length**: 2 questions
- **Details**: Content of exam refers to lectures in block two only.
- **Style and format**: Exam

#### Assessment 3
- **Exam**
- **Due date**: Week 13
- **Weighting**: 33%
- **Submission**: Exam papers and answers must be submitted at the conclusion of the exam.
- **Type of Collaboration**: Individual Assessment
- **Length**: 2 questions
- **Details**: Content of exam refers to lectures in block three only.
- **Style and format**: Exam

### Minimum Requirements for a Pass in this Subject

To receive a clear pass in this subject a total mark of 50% or more must be achieved. In addition, failure to meet any of the minimum performance requirements is grounds for awarding a Technical Fail (TF) in the subject, even where total marks accumulated are greater than 50%.

The minimum performance requirements for this subject are:
- A total mark of 50% or more must be achieved overall
Minimum Student Attendance and Participation
It is expected that students will allocate 24 hours per week to this subject, including any required class attendance, completion of prescribed readings and assessment tasks.

Student attendance at lectures is not compulsory (with the exception of lectures in which exams will be held) but is strongly recommended.

Scaling
Scaling will not occur in this subject.

Late Submission
N/A as assessment tasks are all exam based.

System of Referencing Used for Written Work
All assessments in this subject are exam based. Students may be required to reference material within their exam. The system of referencing used will not be assessable however appropriate acknowledgment of information sources must be included.

Use of Internet Sources
Students are able to use the Internet to access the most current information on relevant topics and information. Internet sources should only be used after careful critical analysis of the currency of the information, the role and standing of the sponsoring institution, reputation and credentials of the author, the clarity of the information and the extent to which the information can be supported or ratified by other authoritative sources.

Plagiarism
The full policy on Academic Integrity and Plagiarism is found in the Policy Directory on the UOW website.

"The University's Academic Integrity and Plagiarism Policy, Faculty Handbooks and subject guides clearly set out the University’s expectation that students submit only their own original work for assessment and avoid plagiarising the work of others or cheating. Re-using any of your own work (either in part or in full) which you have submitted previously for assessment is not permitted without appropriate acknowledgement. Plagiarism can be detected and has led to students being expelled from the University.

The use by students of any website that provides access to essays or other assessment items (sometimes marketed as ‘resources’), is extremely unwise. Students who provide an assessment item (or provide access to an assessment item) to others, either directly or indirectly (for example by uploading an assessment item to a website) are considered by the university to be intentionally or recklessly helping other students to cheat. This is considered academic misconduct and students place themselves at risk of being expelled from the University.”

Submission of Assessments
Refer to the submission requirements under the details of the individual assessments. Students should ensure that they receive a receipt/evidence acknowledging assessment submission. Students will be required to produce this in the event that an assessment task is considered to be lost. Students are also expected to keep a copy of all their submitted assignments in the event that re-submission is required.

Assessment Return
Contact your subject coordinator if you would like feedback on your assessment. In accordance with University Policy marked assessments will usually only be held for 21 days after the declaration of marks for that assessment.
Section C: General Advice

Students should refer to the Faculty of Science, Medicine and Health website for information on policies, learning and support services and other general advice.

University Policies

Students should be familiar with the following University policies:

- Code of Practice – Teaching and Assessment
- Student Charter
- Academic Integrity and Plagiarism Policy
- Student Academic Consideration Policy
- Course Progress Policy
- Graduate Qualities Policy
- Academic Grievance Policy (Coursework and Honours Students)
- Policy and Guidelines on Non-Discriminatory Language Practice and Presentation
- Workplace Health and Safety, where relevant
- Intellectual Property Policy

Student Support Services and Facilities

Students can access information on student support services and facilities at the following link. This includes information on “Academic Support”, “Starting at University”, “Help at University” as well as information and support on “Career’s and Jobs”. [http://www.uow.edu.au/student/services/index.html](http://www.uow.edu.au/student/services/index.html)

Student Etiquette


Version Control Table

<table>
<thead>
<tr>
<th>Version Control</th>
<th>Release Date</th>
<th>Author/Reviewer</th>
<th>Approved By</th>
<th>Amendment</th>
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<tr>
<td></td>
<td></td>
<td>A/Pr Paul Keller</td>
<td>Sonia Losinno –</td>
<td>Draft CHEM944 Autumn 2016 outline.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subject Coordinator</td>
<td>ADE Nominee</td>
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