School of Chemistry

CHEM215: Food Chemistry

Subject Outline
Autumn, 2016
On-Campus
Wollongong

Subject Information
Credit Points: 6
Pre-requisite(s): CHEM101 and CHEM102 or CHEM104 & CHEM105
Co-requisite(s): Nil
Restrictions: Nil
Contact Hours: 39hr Lecture & Tutorial, 15hr Practical

Subject Contacts
Subject Coordinator/Lecturer
Name: A/Prof Aaron Oakley
Location: Building 18, Room G25
Telephone: 61 2 4221 4347
Email: aaron_oakley@uow.edu.au
Consultation mode and times: Email for appointment

Lecturer/Demonstrator/Tutor
Name: Dr Carolyn Dillon
Location: Building 18, Room 129
Telephone: 61 2 4221 4930
Email: carolynd@uow.edu.au
Consultation mode and times: Email for appointment

Lecturer/Demonstrator/Tutor
Name: A/Prof Michael Kelso
Location: Building 18, Room 115
Telephone: 61 2 4221 5085
Email: michael_kelso@uow.edu.au
Consultation mode and times: Email for appointment

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:

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.
- 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.
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Section A: General Information

Subject Learning Outcomes

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

1. Be aware of the nutrients in food;
2. Understand the chemical structures of nutrients (fats, proteins, carbohydrates, vitamins and minerals), and how that relates to the properties, cooking and processing of foods;
3. Have acquired knowledge concerning some of the methods of analysis of some components of foods;
4. Be aware of food processing and preservation techniques & toxicology;
5. Have an overview of the role of biotechnology in producing new/improved food products.

Subject Description

Only listed in the Health & Behavioural Sciences Schedule. This subject is designed as a core subject in the BSc (Nutrition) program. Description: Types of nutrients, energy value of food. Fats, carbohydrates, and proteins in foods. Colloidal systems. Essential trace elements, vitamins. Cooking, preservation and processing of food. Chemical additives and toxins in food.

eLearning Space

This subject has materials and activities available via eLearning. To access eLearning you must have a UOW user account name and password, and be enrolled in the subject. eLearning is accessed via SOLS (student online services). Log on to SOLS and then click on the eLearning link in the menu column. For information regarding the eLearning spaces please use the following link: http://uowblogs.com/moodlelab/files/2013/05/Moodle_StudentGuide-1petpo7.pdf

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

Timetable information can be accessed from http://www.uow.edu.au/student/timetables/info/index.html

Key University Dates can be accessed from http://www.uow.edu.au/student/dates/index.html
Readings, References and Materials

Textbooks
The following text(s) is recommended for students enrolled in this class.


Materials
Laboratory coat, Safety glasses, Lab Manual (Digital copy available on eLearning)

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


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
Nil

Ethical Objection to the Use of Animal and Animal Products
In order to achieve specific learning objectives, the use of animals, animal tissues, and or animal-derived products (such as sera) is inherent and unavoidable. Students with conscientious objections to this use should not enrol in this subject.

Students who intend to avoid a particular learning activity on the basis of conscientious objection should notify the subject coordinator in writing as soon as possible and not later than the end of Week 1 of the session. Students who do not participate in a particular learning activity are required to complete an alternative exercise (a CD-ROM is available) or attend the practical and "observe". The material involved is examinable and the prac must be written up and completed in your workbook. For further information, refer to http://www.uow.edu.au/about/policy/UOW058708.html

Laboratory Safety Guidelines
Please refer to Workplace Health and Safety, where relevant: http://staff.uow.edu.au/ohs/index.html

The rules below are general rules that are required in laboratories.

- Before commencing your project you are to ensure that you understand specific procedures for the laboratory in which you work.
- Never use any equipment or attempt any experiment without checking the safety implications with your laboratory supervisor or experienced delegated laboratory worker.
- Undergraduate students are not permitted to work after hours unless there is appropriate approval and supervision.
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
- Overview of types of nutrients, sources, role in nutrition.
- Proteins - types, structure, function.
- Coagulation and denaturation. Effect of cooking.
- Lipids (Fats and oils) – Structures and relationships to physical properties and nutrition; reactions of fats and effect on properties; characterisation of fats.
- Carbohydrates - monosaccharides, disaccharides and polysaccharides. Isomers, sweetness, effect of cooking.
- Enzymic browning.
- Food processing and preservation - sterilisation, irradiation, freezing, dehydration, etc.
- Additives in food (preservatives, colours, hormones)
- Toxicology
- Vitamins and minerals

Practical Topics
- Vitamin C Content of Cabbage
- Enzymic Browning
- Oils and Fats
- Pigments in Plant Materials
- Isolation of Caffeine from Tea and Coffee

A Timetable of Topics will be available from the eLearning site in week 1 of session.
### Section B: Assessment

#### Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Form of Assessment</th>
<th>Due Date</th>
<th>Return/Feedback Due Dates</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1</td>
<td>Quiz</td>
<td>Week 8</td>
<td>Week 10</td>
<td>15%</td>
</tr>
<tr>
<td>Assessment 2</td>
<td>Practical Reports</td>
<td>Various</td>
<td>Within 21 days of due date</td>
<td>25%</td>
</tr>
<tr>
<td>Assessment 3</td>
<td>Final Examination</td>
<td>End of session</td>
<td>Release of results</td>
<td>60%</td>
</tr>
</tbody>
</table>

**Total Marks 100%**

#### Details of Assessment Tasks

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

**Assessment 1**
- **Quiz**
- **Due date**: Week 8
- **Weighting**: 15%
- **Submission**: Exam papers and answers must be submitted at the conclusion of the exam.
- **Type of Collaboration**: Individual Assessment
- **Length**: 50 minutes
- **Subject Learning Outcomes**: 1,2,3,
- **Marking Criteria**: Multiple choice

**Assessment 2**
- **Practical Reports**
- **Due date**: Varies between practicals
- **Weighting**: 25%
- **Submission**: Submit a hardcopy to the StudentHub 41
- **Type of Collaboration**: Individual Assessment
- **Length**: N/A
- **Details**: Experiments 1, 3 & 4: Templates; Experiment 2: Template and Essay; Experiment 5: Full Report.
- **Style and format**: Varies between practicals
- **Subject Learning Outcomes**: 1,2,3,4,5
- **Marking Criteria**: The marking criteria will be made available on your eLearning site by week 1 of session.

**Assessment 3**
- **Final Examination**
- **Due date**: End of session
- **Weighting**: 60%
- **Submission**: Exam papers and answers must be submitted at the conclusion of the exam.
- **Type of Collaboration**: Individual Assessment
- **Length**: 3 hours
- **Details**: Short answer/multiple choice
- **Subject Learning Outcomes**: 1,2,3,4,5
- **Marking Criteria**: The marking criteria will be made available on your eLearning site by week 1 of session.
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:

- attempt all assessment tasks
- obtain a grade of at least 45% in the final exam
- obtain a total grade of at least 50% for all Practical Reports
- attend all practical sessions

Minimum Student Attendance and Participation

Student attendance at practicals is compulsory and students must attend 100% of classes. Absences will require a medical certificate or other suitable documentation which must be presented to Student central along with an application for Academic Consideration as soon as practical after the absence has occurred. Students who do not meet minimum attendance requirements may be awarded a Technical Fail (TF) for this subject.

It is expected that students will allocate 12 hours per week to this subject, including any required class attendance, completion of prescribed readings and assessment tasks.

Student attendance at tutorials, seminars and/or simulations is not compulsory but is strongly recommended.

Scaling

Scaling may occur in this subject at the end of session by the Unit Assessment Committee and/or Faculty Assessment Committee (FAC). Marks will only be scaled to ensure fairness/parity of marking across groups of students. Scaling will not affect any individual student’s rank order within their cohort. For more information refer to Assessment Guidelines – Scaling: http://www.uow.edu.au/about/policy/UOW058609.html

Late Submission

Late submission of an assessment task without an approved extension of the deadline is not acceptable. If you are unable to submit an assessment due to extenuating circumstances (e.g. medical grounds or compassionate grounds), you can make an application of academic consideration. Not all circumstances qualify for academic consideration. For further details about applying for academic consideration visit the Student Central webpage: http://www.uow.edu.au/student/central/academicconsideration/index.html

Late Submission Penalty

Late submission of an assessment task without an approved extension of the deadline is not acceptable. Marks will be deducted for late submission at the rate of 5% of the total possible marks for that particular assessment task per day. This means that if a piece of work is marked out of 100, then the late penalty will be 5 marks per day (5% of 100 possible marks per day). The formula for calculating the late penalty is: the total possible marks x 0.05 x number of days late. For the purposes of this policy a weekend (Saturday and Sunday) will be regarded as two days.

For example:

- Student A submits an assignment which is marked out of 100. The assignment is submitted 7 days late. This means that a late penalty of 35 marks will apply (100 x 0.05 x 7). The assignment is marked as per normal out of 100 and is given a mark of 85/100, and then the late penalty is applied. The result is that the student receives a final mark of 50/100 for the assignment (85 (original mark) – 35 marks (late penalty) = 50/100 (final mark)).
- Student B submits a report which is marked out of 20. The report is submitted three days late. This means that a late penalty of 3 marks will apply ((20 x 0.05 x 3). The report is marked as
per normal out of 20 and is given a mark of 17/20, and then the late penalty is applied. The result is that the student receives a final mark of 14/20 for the report (17 (original mark) – 3 marks (late penalty) = 14/20 (final mark)).

No marks will be awarded for work submitted either after the assessment has been returned to the students or more than two weeks after the due date, whichever is the sooner. This does not apply to situations where a particular assessment task is undertaken by students at different times throughout the session, but where the assessment is based on experiments or case studies specific to a student. In this case no marks will be awarded for work submitted more than two weeks after the due date.

Notwithstanding this, students must complete all assessment tasks to a satisfactory standard and submit them, regardless of lateness or loss of marks, where submission is a condition of satisfactorily completing the subject.

**Supplementary Assessments**

Supplementary assessment may be offered to students whose performance in this subject is close to that required to pass the subject, and are otherwise identified as meriting an offer of a supplementary assessment. The precise form of supplementary assessment will be determined at the time the offer of a supplementary assessment is made.

Students can log on to SOLS and click on the link titled “Supplementary Assessment” to view any applicable offers or use the following link;


**System of Referencing Used for Written Work**

This subject uses the Oxford system of referencing, unless otherwise specified for a particular assignment – check Details of Assessment Tasks.

A summary of Oxford system can be accessed via the Library homepage, Related Links, Referencing and citing:


**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

Assessments submitted at StudentHub 41 must have a SATS (Student Assessment Tracking System) coversheet attached to the front of the assessment. Instructions for generating a coversheet can be found on the StudentHub 41 web page: http://smah.uow.edu.au/current-students/UOW151958.html

For an assessment to be successfully submitted at StudentHub 41 please note the following:

- The coversheet must be signed and dated.
- The assessment must have the correct coversheet i.e. the correct subject code and tutorial group (if applicable).
- A legible barcode with all numbers and digits below e.g. UOW20121007656.
- Assessments must be submitted by 4:00pm on the due date.

If an assessment is submitted to StudentHub 41 without any of the above we will contact you through your student email address and advise that you need to return to StudentHub 41 with the correct coversheet. Your assessment won’t be considered submitted until the correct coversheet is attached. This might mean that your assessment is submitted late.

An email receipt will be issued on the same day as submission of assessments and students are required to retain this receipt until they have received the final mark for that assessment task. It is your responsibility to contact StudentHub 41 if you have not received this receipt by the following business day. The receipt is proof of submission of assessments and 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 assessments in the event that re-submission is required. SATS Group Assessment Coversheets are printed by the lead member of the group and subsequent names can be added in the SATS student interface before printing. All members of the group must sign the printed SATS Group Assessment Coversheet before submitting the assessment.

Note that if assessments are submitted in the after-hours slot at StudentHub 41 it will be scanned into SATS the following business day. Assessments submitted via post will be scanned into SATS on the day of delivery. Any assessments received without the correct assessment coversheet attached will not be accepted by SATS. It is the student’s responsibility to ensure that the correct assessment coversheet is submitted with their assessment.

Students may post their assessments to:

StudentHub 41 (41.138B)
University of Wollongong
Wollongong NSW 2522

Assessments will be considered submitted on the date of postage. It is the student’s responsibility to ensure they have evidence of their submission date if it arrives at the office after due date.

Distance students who would like to have marked assessments returned must include a stamped self-addressed envelope with the posted assessment.

Assessment Return

Students will be notified when they can collect or view their marked 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:

a. Code of Practice – Teaching and Assessment  

b. Student Charter  

c. Code of Practice – Student Professional Experience, where relevant  

d. Academic Integrity and Plagiarism Policy  

e. Student Academic Consideration Policy  

f. Course Progress Policy  

g. Graduate Qualities Policy  

h. Academic Complaints Policy (Coursework and Honours Students)  

i. Policy and Guidelines on Non-Discriminatory Language Practice and Presentation  

j. Workplace Health and Safety, where relevant  

k. Intellectual Property Policy  

l. Policy on Ethical Objection by Students to the Use of Animal and Animal Products in Coursework Subjects, where relevant  

m. Student Conduct Rules and accompanying Procedures or Research Misconduct Policy for research students  

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”.  
Student Etiquette
Guidelines on the use of email to contact teaching staff, mobile phone use in class and information on
the university guide to eLearning ‘Netiquette’ can be found at

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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<td>1</td>
<td>20151211</td>
<td>Dr Aaron Oakley – Subject Coordinator</td>
<td>Mrs Sonia Losinno – ADE Nominee</td>
<td>FINAL CHEM215 Autumn 2016 Subject Outline</td>
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