REGULATIONS FOR THESIS PREPARATION

1. **Line Spacing:** All text should be double spaced on A4 paper (210 mm x 297 mm).

2. **Text Size and Font:** Body text should be non-bold 12 point in size using a professional font, such as arial, arial narrow, courier, georgia, optima, sommet, times new roman or verdana. Titles and sub-titles may be larger than 12 point and in bold, underlined and/or italicised text.

3. **Page Format:** The margins on each sheet should be no less than 35 mm on the left-hand side, 15 mm on the right-hand side, 25 mm at the top and bottom.

4. **Figures, Schemes and Tables:** These should be placed close to where the text refers to them. They may be placed between pages of text, or in the body of the text.

5. **ChemDraw Images:** It is advisable to generate ChemDraw images using preset document settings (see File dropdown menu) such as ACS Document 1996 or RSC (1 Column) Document. These ensure readability when copied into word-processing software. Images from recent versions of ChemDraw can be copied directly into Microsoft Word without distortion. Older versions benefit from saving as a .TIFF image and inserting as a picture.

6. **Title Page:** The following information should appear on the title page
   - Subject of the thesis.
   - Author's name.
   - Degree for which submission is made (Bachelor of Science (Honours) or Bachelor of Science (Advanced)).
   - Date of submission.
   - Supervisor.

7. **Abstract:** The title page should be followed by a single page abstract that contains a clear statement of experimental findings and conclusions.

8. **Introduction:** The introductory section should contain a clear statement of the aim of the investigation, together with a brief survey of relevant background information. It is not necessary to include large amounts of material that is readily available in standard textbooks.

9. **Length of Thesis:** The aim should be to produce a clearly written, properly documented and thoroughly organised thesis that occupies 30-50 pages. Theses exceeding 50 pages are not welcomed and over elaborate presentation of diagrams etc., is not necessary. Typically, thesis content beyond page 50 of the thesis will not be examined.

10. **References:** The style must be consistent and unambiguous. Typical formats are those of ACS, RSC or Wiley-VCH journals. The following style is one suggested format:
    - For journals – Author (with initials), Journal name (in conventional abbreviation, printed in italics), Year, Volume (in bold), page number beginning-page number end. Example:
      J. A. Bloggs, A. C. Hemist, N. Genius, *J. Am. Chem. Soc.,* 2013, **135**, 11005-11012.
    - For books – Title (printed in italics), Authors or Editors (with initials), Edition number, Publisher, Place of Publication, Country of Publication, Year of Publication. Example:
      SI Chemical Data, G. H. Aylward, T. J. V. Findlay, 6th Edition, John Wiley & Sons, New York, USA, 2012.

11. **Page numbers:** Every page with printing (text, figures, appendices etc.) must be numbered.

12. **Thesis Binding:** The binding should be of the simplest kind (blocked and pasted). The following is the regulation for higher degree thesis binding:
    - The thesis shall be bound in boards, covered with bookcloth (buckram) or a similar binding fabric.
    - The thesis shall be lettered on the spine as follows:
        - At the bottom; UNSW.
        - 70 mm from the bottom; the degree and year *e.g.* B.Sc. (Hons) 2013.
        - Evenly spaced between the degree and year and the top of the spine; the name of the author as initials and surname, *e.g.* J. A. Bloggs.
        - No further lettering or any decoration is required on the spine or anywhere else on the binding.
        - In the binding of theses which
    - In the binding of theses that include mounted photographs, folded graphs, and so on, the leaves at the spine must be packed to ensure an even thickness of the thesis.

SUBMISSION OF A BOUND THESIS/THESES UPON COMPLETION OF HONOURS - IMPORTANT

One bound thesis per member of a student's supervisory panel (typically one thesis, two for co-supervision) and a final .pdf of your thesis must be submitted to Ms Anne Ayres of the School of Chemistry office within one week of your seminar-defence. The .pdf file name must follow the following convention:

SURNAME_student#_primary supervisor surname_FINAL THESIS.pdf
Example: SMITH_3123456_Messerle_FINAL THESIS.pdf

Feedback in the form of annotated Honours theses will, if available, be issued to you after your seminar-defence. This should be acted on before your thesis is printed and bound. Your final grade and Honours class **will not be** processed until you have submitted your bound thesis. In extreme cases this will result in delayed graduation.

Thesis binding is the financial responsibility of the Honours student. Supervisors are not expected to pay for thesis binding.

USEFUL ADVICE FOR THE DRAFTING OF HONOURS THESES

Each year the Honours theses are assessed by examiner panels. The following advice has been developed based on this experience and the noting of common errors. It is intended to assist future candidates submit the best thesis and to avoid such errors:

1. Latin phrases and abbreviations of Latin phrases must be set in italic type or, if in a section which is already italicised, set in non-italic type. For example: *'in situ'*. The list below shows some common Latin phrases you may need to use in your thesis:
    - *ca.* *cf.* *e.g.* *et al.* *etc.* *i.e.* *in situ* *inter alia* *vide supra* *via*
    - Note the full stops and make sure you know the meaning of these phrases before you use them.

2. Letters used to represent physical quantities should be italicised, for example, *m* for mass, V_m for molar volume (note;'m' for molar is not italicised), *m/z* for mass to charge ratio, *k* for a rate constant, *K* for an equilibrium constant, but note pK_a where only the *K* is italic.
    - For more detail see *Quantities, Units and Symbols in Physical Chemistry*, I. Mills, T. Cvitas, K. Homann, N. Kallay, K. Kuchitsu, Blackwell Science, Oxford, 2nd ed., **1993**, UK.
    - Some terms used in chemical nomenclature are also set in italics, for example *endo, exo, cis, trans*.

3. When referring to a compound by number, a noun 'qualifier' is required prior to the number. The two major chemical societies suggest the following:
    - From the Instructions for Authors, American Chemical Society (as published in Journal of Organic Chemistry, **67** (1)) "Complex compounds with unduly lengthy or unwieldy names should be referred to by their functional class and structural number, *e.g.* ketone **23**."
    - From the Instructions for Authors, Royal Society of Chemistry (from the RSC website) "The key number for a compound may be used in the cursive text to avoid repetition of long chemical names; this device must not be used to excess. In general it is preferred if the key number is qualified by a partial name as in the following example: Pyolin **1** was oxidized by permanganate to the oxoacid **2**, the methyl ester **3** of which with methylmagnesium iodide gave the normal product **4**."
    - NOTE: You should number ALL compounds whose structures are given in the thesis, and you should also provide a guide to substituent numbering for compounds central to your project.

4. References must be set out in a consistent format. Any commonly accepted referencing style is acceptable, however once you choose a style (formatting, abbreviation of journal name etc.) you must apply that style consistently. Any reference that you quote, you must have read, or if this is not the case, you must indicate otherwise (*e.g.* 'abstract consulted'). Never use '*et al.*' in the author list for a reference in the list of references. The use of '*et al.*' is only permissible when listing authors in the body of your thesis, but the actual reference to the document must list all authors. Experimental and spectroscopic details must also be reported using a consistent and acceptable format such as those used in RSC and ACS journals.

5. Check the names of compounds generated by chemical structure drawing programs. They can be incorrect or not conform to IUPAC recommendations.

6. All raw data must be reported in a synthetic procedure, even one that does not give the desired product. It is **not** sufficient to simply say that the process did not yield the desired product. For example, spectroscopic data may be given. Further, it is **not** sufficient to indicate that a given number of components were identified by GC/MS. The retention times (and the column and conditions) must be specified, as well as the observed ions. In other words, all quantitative data from chromatography (including GC/MS), spectroscopy or the like must be given. If the

1. Synthetic projects are dramatically affected by having the correct amount of detail in the results and discussion. This content **should not** be a repeat of the experimental but should include sufficient detail to indicate that the reaction was completed successfully, identifying key features where appropriate. Yields and m.p., for example, are really not necessary (unless either is notable, which is highly unlikely except for a particularly novel compound) and experimental details should be limited to when it suits the discussion. A hypothetical example where a reaction did not go well but the product could still be isolated is given below:

   "Phenylalanine **1** was treated with acetic anhydride under basic aqueous conditions to give the corresponding acetamide **2** (Scheme 1). A proton NMR spectrum of the crude reaction mixture indicated the presence of both the starting material **1** and product **2** in a *ca.* 1:1ratio. This is exemplified by the presence of signals of approximately equal integration at 3.45 and 4.40 ppm, corresponding to the alpha protons of the starting material **1** and product **2** respectively. Partitioning this reaction mixture between ethyl acetate and dilute aqueous acid permitted separation of the amino acid derivative **2**. The spectroscopic and physical data for **2** are consistent with those previously reported.[2,3]"

2. Make sure that figures and drawings are of sufficient size that any significant aspect of the figure is clearly visible to the reader.

3. If you make frequent use of abbreviations and acronyms it is desirable to include a table of abbreviations near the front of your thesis. It may also be desirable to include a fold-out page listing structures of compounds referred to frequently in the text.

THESIS MARKING[1] - A GUIDE FOR STUDENTS

Abstract, Thesis Format and Presentation = 20% of Thesis Mark

- Quality of Abstract
- Arrangement and clarity of presentation
- English expression and spelling
- Quality of figures and illustrations
- Formatting of references
- Editing, formatting, and general impression

Introduction and Literature Review = 20% of Thesis Mark

- Level of presentation, extent and relevance
- Critical assessment of the literature
- Referencing
- Establishment of project aims and methodology

Discussion and Conclusions = 30% of Thesis Mark

- Level of understanding
- Interpretation of results and sophistication of analysis
- Handling and identification of errors
- Comparison with other data
- Achievements with respect to project aims

Experimental = 10% of Thesis Mark

- Completeness, accuracy and clarity of experimental section

Results/Work Effort = 20% of Thesis Mark

[1] This is a general guide. It is important to acknowledge that particular types of thesis will be weighted differently, *e.g.* a synthetic project may place greater emphasis on the experimental section than a measurement directed thesis.

HONOURS CLASS RECOMMENDATIONS[2] – A GUIDE FOR STUDENTS

85 and above (1st)
Student has an excellent command of the theory and practice of the discipline. Student works independently and completes stages of the project punctually with good time management. Student demonstrates independence of thought; problem solves and makes a strong contribution to the direction of the research, as evidenced in seminar-defence. Student demonstrates the key outcomes of the project, not simply a list of outcomes, and how these contribute to research in the broader area.

75-84 (2:1)
Student expresses a command of the theory and practice of the discipline. Student demonstrates an ability to conduct work at an independent level and complete tasks on time. Student understands the factual basis of the project and shows some initiative but is reliant on other people for ideas and techniques, as evidenced in seminar-defence. The student demonstrates some key outcomes of the project but tends toward an indiscriminate list of experiments without placing any emphasis on the importance to research in the broader area.

65-74 (2:2)
Student shows proficiency in the theory and practice of their discipline in the project but has not developed independence of thought, practical mastery or clarity of presentation. Student shows adequate understanding of the topic but largely follows the direction of the supervisor. The student fails to grasp research and tends toward routine processes/reactions. Student shows a lack of understanding of the project or its importance in a broader context. When asked, the student simply lists research outcomes and fails to make any correlation with research elsewhere.

50-64 (3rd)
The student completes the project but at a standard that barely meets Honours criteria. The student's understanding of the topic is limited and they demonstrate little or no independence of thought, as evidenced in seminar-defence. Project is clearly supervisor driven. Student does not appreciate research and tends toward routine processes. The student makes few contributions during Honours year and, when asked, reels off a list of experiments.

[2] This is particularly relevant to the assessment of the final seminar-defence.