

# COMPILATION STYLE THESIS GUIDANCE (PhD)

## University of Portsmouth

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#### Regulations for Research Degrees

Please note, the guidance in this document is governed by the University of Portsmouth <u>Regulations for Research Degrees</u>.

#### 1. Executive summary

A compilation style thesis (CST) is one in which the core of the PhD thesis is structured as a series of published or publishable outputs. Students are registered for the same award as those submitting their PhD thesis in the traditional format, it is simply the style that differs. PhD students are increasingly expected to publish outputs during their studies, and the CST is now being actively considered by many supervisory teams and Postgraduate Research Students (PGRS) throughout the UK as a helpful way to publish and produce a thesis at the same time.

This guidance has been produced to provide an agreed definition and set of expectations for the CST for the University of Portsmouth; it will also facilitate the sharing of good practice about the processes and quality required to achieve a successful thesis outcome. Although these guidelines provide the core definition of the University of Portsmouth CST, there are additional discipline-specific matters which must be considered by the student and supervisor, and these appear in Appendix A.

Given that a CST is simply a different way of presenting a standard PhD thesis, it differs from a <u>PhD by Publication</u>, which is a separate type of research degree intended for established researchers who have a series of *existing* outputs published *prior* to registration.

The CST works best for subject areas in which PhD theses normally consist of a short series of separate topics suitable for journal outputs. Additionally, the CST is most suitable for confident students who are supervised by experienced researchers with strong publication records. The CST approach works best when it is discussed by the PGR and supervision team early on in the PhD process so that time for preparation and submission of the outputs can be carefully planned.

As the nature of PhDs differs between disciplines (Appendix A), it is impossible to prescribe details such as the number of outputs required in a CST. Overall, the quantity and quality of the thesis submitted for examination needs to equate to

that which would otherwise be presented in the traditional thesis format in the relevant discipline, as described in the Presentation of the Thesis section of the <u>Regulations for Research Degrees</u>.

### 2. Introduction and background

There is an increasing expectation in many disciplines that Postgraduate Research Degree Students should publish journal outputs during and shortly after completion of their degrees. The CST has therefore been developed as a way to publish research conducted during the course of the PhD when the student and supervisors agree that the planned research is suitable for this format.

The potential advantages of CSTs are:

- The process of thesis preparation and writing is broken down into smaller, more structured, and potentially more manageable chunks;
- The peer review process provides additional expert input to the PhD, which may enhance the final product and alert the student and supervisory team to any potential issues;
- The PhD student is able to develop their academic CV alongside their studies;
- Publication of the research prior to its inclusion in the PhD thesis provides a good indicator of the original contribution made by the research.

Things that should be considered before embarking on a CST:

- The publication and review process adds to the work required for a conventional PhD thesis format;
- The publishers of the outputs within the PhD may not wish for the thesis to contain their copyrighted material (see Section 9);
- Some students might embark on a CST, only to find they are unable to publish sufficient material during their registration period. In this case, they would revert to the traditional PhD thesis format.

### 3. Definitions and terminology

The compilation style thesis (CST), as the name implies, is a distinct style of PhD thesis and *not* a separate type of research degree. Therefore, all deadlines, application processes and regulations are the same as those of a traditional PhD research degree. The defining aspect of a CST is the inclusion of outputs published in, accepted by, under review at, or in preparation for high-quality, peer-reviewed journals or conferences as the core of the thesis. Typically, the content of the chapters based on these would be very close to that of the published/ submitted/ prepared outputs. This differs from a traditional PhD thesis as while this may include chapters upon which research publications may have been, or may be expected to be, based, the exact content of the publication would likely be rather different (in length and structure) to the related chapter.

The CST should not be confused with the <u>PhD by Publication</u> which is based upon publications written prior to registration for the degree.

#### 4. Factors to consider

While working towards a compilation style thesis is an excellent way for PhD students to publish during their PhD studies, it is not suitable for every PhD project or student. When evaluating whether to work towards a compilation style thesis a student and their supervisory team should consider the type of PhD project, and an individual student's experience and motivations.

The CST may be best completed in areas where PhD theses normally consist of a series of separate topics suitable for journal outputs. A PhD anticipated to include exploratory studies, monolithic single studies or theoretical studies, may be best written up in a more traditional thesis format. The likely speed of publication, considering the response times of journals in the field, may also be an important factor. Additionally, the CST may be most suitable for students with publication experience who are supervised by researchers with strong publication records. If it is not the case that the student has publication experience, but there are strong indications that a compilation style thesis would be suitable, the supervisory team and student would need to feel that there is sufficient time remaining for appropriate training to take place.

The CST is usually more demanding than a traditional thesis and requires additional skills e.g. dealing with reviewers' comments and the distinct requirements of several publications. The publication process can increase the time pressure on students, and they and their supervisory team need to be confident that this will not impact on the student's ability to successfully complete their PhD. Even if a PhD project looks like a good opportunity for a CST, there may be a variety of reasons why some students may not wish to publish during the course of their PhD and would prefer to work towards producing a traditional thesis.

#### 4.1 Professional Doctorates and the Compilation Style Thesis

The Regulations for Research Degrees do not preclude adopting a CST approach to the thesis of a Professional Doctorate. However, caution is advised, as the research phase of a Professional Doctorate is shorter than that of a conventional PhD. If a student has academic publication experience, and has established publication opportunities which could make a CST approach feasible, it may be appropriate. See Appendix A for Faculty specific details.

Consideration would need to be given to the following:

- Professional Doctorate students do not undergo Major Review, which would normally be the point at which a CST approach is ratified, so the intention to submit a CST should be agreed early in the research phase and discussed in the first Annual Review;
- The ways in which the submitted outputs could provide evidence of a contribution to practice should be established by the student and supervisor early in the research phase;
- 3. The number of publications expected in each discipline is addressed in Appendix A.

### 5. Deciding to start a Compilation Style Thesis

Students wishing to follow a CST route will need to obtain approval for this from their supervisory panel in their early supervision meetings. Supervisors and the student should be aware of the issues involved (as outlined in these guidelines), and in agreement that this is the correct thesis style for the student and PhD project. The decision to submit a compilation thesis will normally be ratified by the review panel at the candidate's Major Review meeting or Annual Review for Professional Doctorates.

There may be cases in which the early work or publication success of a student taking a traditional PhD approach begins to indicate that a CST may be appropriate. The supervisory team and student would need to feel that there is sufficient time remaining for this approach to be viable, and the potential switch to a CST should be discussed with the panel at the next end of year review. The panel should record the outcome of the discussion in the review report.

If the student and supervision team agree that the PhD will be approached with the aim of producing a compilation style thesis, they are expected to follow the guidance in this document and that contained in Appendix A. The student and the First Supervisor must also attend the Doctoral College's Compilation Style Thesis training which can be booked by students on <u>Skills Forge</u> and supervisors on the <u>Doctoral College –</u> <u>Research Supervisor Events</u> Moodle page.

### 6. Number and status of outputs

A CST would normally consist of chapters based on outputs published in, accepted by, under review at, submitted to, or in preparation for high-quality, peer-reviewed journals or conference proceedings considered equal to journal outputs. Faculties and School specify the number and types of outputs that are eligible in Appendix A. The maximum word count for each award should also be considered when agreeing the number of outputs to be included.

#### 6.1 Work published prior to registration

In some disciplines (see Appendix A), a candidate can request permission to include an output published prior to registration in their CST. The request should be in the form of a short summary (250 words) indicating how the published output informs the thesis.

A panel of three consisting of the First Supervisor, the Associate Head Research and Innovation (or equivalent) and the Faculty Director of Postgraduate Research (FDPGR) will consider such requests at the earliest possible opportunity. Should the First Supervisor be either the Associate Head Research and Innovation (or equivalent) for the School or the FDPGR, an Associate Head Research and Innovation (or equivalent) from another School in the Faculty will be appointed to the panel.

The following will normally apply to pre-registration publications:

a. the publication (effective date of publication) was completed in the 5 years prior to registration for PhD study;

b. the publication must be in a peer reviewed publication;

c. not more than **one** such publication can be approved for inclusion in the PhD thesis (unless, exceptionally, the student is transferring in from another institution);

d. the publication should not have been submitted previously for another degree.

See Appendix A for further details.

### 7. Guidance for Major and Annual Reviews for CST students

The same UoP regulations apply to the structure and operation (including forms to be completed) of the review panel. However, as the compilation thesis style is different to a traditional thesis, the following is a guide to what might normally be included in a CST Major Review submission:

1. A draft/plan for the anticipated outputs and target journals. The student should provide evidence of the outputs that will be included in the thesis;

2. Identify the research questions of their study and the likely hypotheses of each output;

3. Identify how the research in the outputs contributes to knowledge within the subject area;

- 4. Indicate how the outputs are linked;
- 5. Identify the candidate's contribution to the research outputs;
- 7. Identify any actual/potential conference presentations;
- 8. Provide details of training undertaken;
- 9. Provide a timeline to submission taking publication times into account.

If the candidate intends to use an Annual Review to seek permission to adopt the CST format, we recommend that the presentation and slide pack should address the details above to enable the panel to reach a decision.

### If a CST is being considered, supervisors must ensure reviewers receive this guidance document PRIOR to the review meeting taking place.

The panel should question the student in line with the questions laid out on the Annual/Major Review forms. The panel should avoid conjecture as to the likelihood of publication of outputs but, where relevant, may suggest journals/conferences the candidate might consider targeting.

#### 7.1 Decisions

The panel must indicate in their verbal feedback to the student at the end of the Major Review whether they approve continuation of the PhD in a Compilation Style; this should also be explicitly addressed in the reviewer report. Where this is not approved, clear reasons must be given.

Indicative criteria (others may be relevant depending on the nature of the research):

- 1. Does the plan for the anticipated outputs seem sufficient and achievable in the time remaining?
- 2. Are the research questions and hypotheses related to each output sufficiently robust?
- 3. Are the individual contributions to knowledge for each output clearly stated?
- 4. Is there sufficient evidence of an overarching argument that will link the outputs together?
- 5. Will the student's contribution to each output be sufficient?

#### 8. Thesis structure and formatting

The defining aspect of a compilation style thesis is the inclusion of a number of high-quality, peer-reviewed outputs. However, a compilation style thesis should be more than just a collection of such outputs and should also present these outputs within a broader context, making clear what the overall argument (or thesis) is that is being presented. As with traditional theses, the exact way in which this is achieved depends upon the argument being made and the nature of the studies to be included. The overall aim is to provide the examiner with a full and coherent story of the research programme without unnecessary repetition.

The order of thesis chapters should be chosen carefully. Publications should be presented in an order that is logical to the progression of the thesis argument, and not necessarily in the order in which the work was undertaken or published. The thesis chapter in some cases could be an expanded version of the publication and, where relevant, supplementary materials could be included.

#### 8.1 Indicative structure of a CST

1. An introduction of between 5,000-10,000 words to the field of study with an indication of the original contribution to knowledge and advancement to research of the thesis. It should:

- a) Identify the hypotheses or research questions examined in each of the outputs, showing how these contribute to the advance of knowledge within the chosen subject area;
- b) Show how the outputs submitted link together and reinforce each other.

2. A separate literature review where deemed appropriate for the discipline (see Appendix A).

3. A series of chapters in which the outputs are presented. A number of distinct outputs are expected, normally based on separate studies, and while some overlap between related outputs is acceptable, they should nevertheless be substantially different in focus or content. See Appendix A for discipline-specific guidance about the types of output that are permitted.

4. A concluding general discussion that integrates the work and places it in the context of the research questions posed in the introduction. Concluding remarks should outline future research plans that arise from the body of work submitted.

5. The thesis may also include relevant appendices containing raw data, programs, questionnaires, outputs in their proof stage or published format where available, and other material appropriate for each discipline.

A compilation style thesis must also include a statement that specifies:

- Title, authorship and publication outlet of each output;
- The current status of each output (e.g. in press, accepted, under review, in preparation);
- In the case of co-authored outputs, the extent of the contribution of the candidate to the research and the authorship of each output. The candidate's contributions must be sufficiently independent, both in quality and extent, to meet the academic criteria for obtaining the relevant

qualification as detailed in the Framework for Higher Education Qualifications. If there is reason to doubt that the candidate's contribution to one or more outputs is sufficient, the candidate and the supervisory team may consider increasing the number of outputs submitted in the thesis.

• The candidate must normally be the main author or first author of at least half the outputs, and in a position to satisfactorily defend all of the outputs that have been included within their PhD thesis.

See the guidance on authorship contained in Appendix B.

The entire thesis, including the published outputs, must be formatted in-line with 13.6 Presentation of the Thesis in the <u>Research Degrees Operational Handbook</u>. This is for the following reasons:

- A consistent format will help the reader, particularly when some outputs are yet to be formatted for publication;
- The thesis will be in line with UoP regulations for all level 8 submissions;
- There may be copyright issues if the original format is used;
- Additions or amendments may be made to the outputs in keeping with the context of the thesis.

### 9. Copyright and publishing

The final thesis will be published by the University of Portsmouth Library's Digital Repository, and then usually (where permission is given by the candidate), in the British Library Electronic Theses On-line System (EThOS). The principles behind this are that all research should be published in the public domain to openly share research findings (research integrity), and that the publication of the thesis demonstrates the correct standards have been achieved through the PhD examination process (research quality and assurance).

In most cases, the version of a published output presented in the format of a chapter of a compilation thesis is regarded as having a similar status to the prepublication version of the outputs that can be stored within institutional open access repositories (although this should be checked with the relevant journal). Actual reprints of the published journal outputs should not normally be included as appendices in the thesis (although links to the outputs are encouraged) unless this has been agreed by the journal or other outlet publisher. If in doubt, the copyright status of a thesis chapter should be checked with the journal or outlet publisher before submission of the article for publication.

### 10. Examination

Following submission of a CST thesis the standard University of Portsmouth viva voce examination procedures will apply (see <u>Regulations for Research Degrees</u>). The same guidance for Examiners applies for all examinations, whether the thesis includes publications or not.

### Candidates should be made aware that the inclusion of outputs which have been published or accepted for publication does not itself constitute proof that the submission is of sufficient quality or significance to merit the award of the degree concerned.

As part of the consideration in reaching a recommendation for an award, Examiners are confirming that in their view the standards of the work are at the appropriate level of the Framework for Higher Education Qualifications applicable to the award submitted for (level 8: Doctoral degree qualification - PhD, MD, Prof Doc; or level 7: Master's degree qualification - MPhil).

Supervisors nominating the internal and external examiners of a Compilation Style Thesis must ensure that the examiners are aware of, and comfortable with, examining such a style of thesis. They should send this document to a potential examiner to assist them in deciding whether they wish to accept the appointment.

Research Degrees should also provide access for the examiners to this document when the final thesis is sent as a reminder of the thesis format.

### 11. Corrections to the final thesis

Students must complete all the examiners' requested amendments to the thesis. A University of Portsmouth Research Degree thesis is held to higher standards than some individual journal outputs. Where an examiner requests revision to chapters based on accepted or published journal outputs in the thesis, excepting minor formatting errors, any revisions would normally be made to the introduction, linking sections, discussion or summary of the thesis, rather than to the body of the presented outputs.

### 12. Summary

The Compilation Style Thesis is a method of presenting a PhD thesis, such that any outputs arising from the PhD form the core of the thesis structure. This document must be read in conjunction with existing research degree regulations. If you have any queries about this document or the principles outlined, please contact your Deputy Director of Postgraduate Research (DDPGR), FDPGR or the Director of the Doctoral College.

### 13. Further information and examples

#### References

Barnes, T. (2010). *Confidentiality of PhD theses in the UK*. UKCGE. Christianson, B., Elliot, M., & Massey, B. (2015). *The Role of Publications and Other Artefacts in Submissions for the UK PhD*. UKCGE.

#### **Example UoP Compilation Style Theses**

Please go to the <u>Portsmouth Research Portal</u> and use 'compilation' as a search term to locate examples from recent years.

### Appendix A: Requirements by discipline

Each Faculty has provided information below to clarify any extra considerations in each discipline. In all cases, students should discuss specific requirements for a Compilation Style Thesis with their supervisors.

#### Business and Law – Compilation style thesis requirements

The guidance below applies across all the constituent Schools in the Faculty of Business and Law.

#### **1.**The number of outputs normally expected in a CST submission.

We would normally expect the CST to contain 3 papers.

#### 2. Types of output considered eligible for a CST:

- a) Published outputs;
- b) Manuscripts accepted for publication;
- c) Manuscripts under revision following referees' reports;
- d) Manuscripts submitted and under review by referees;
- e) Conference outputs which are sufficiently distinguished from outputs published or manuscripts accepted or submitted.

All the above are eligible for inclusion in a CST.

# 3. The minimum number of published outputs and balance of outputs expected.

The usual expectation is that while all types of output may be included, the majority of outputs will fall under the categories a, b and c (see 2. above).

#### 4. Are outputs published prior to registration permitted?

Yes, the guidance noted in Section 6.1 applies to all BaL CST.

#### 5. Is a separate literature review required?

No.

# 6. In cases of multiple authorship, how many outputs must the student have as the first or main author?

The student does not have to be first author or main author on all outputs, but we do expect the student to have made a substantive contribution to each of the outputs submitted. Where multiple authored papers are included, the student will need to provide details outlining the extent and nature of their contribution to these papers (and will be expected to provide corroborating support to their claim from their co-authors).

# 7. How will the format of the annual review (AR) and major review (MR) reflect the nature of the thesis?

The format and conduct of the AR and MR in BaL will follow the guidance laid out in Section 7 of this document.

#### 8. Further considerations.

The Faculty encourages specifically doctoral students who have experience in publishing academic research in the proposed subject discipline to engage with the compilation-style thesis (CST) format. The CST may not be suitable for all subject disciplines due to specific publication requirements. Therefore, the format requirements (including publishing processes such as expected outlet review processes) must be documented and clarified with supervisors and Deputy Directors for PGR (DDPGR) prior to choosing this thesis format. Moreover, it shall be emphasised that following a traditional thesis format, instead of a CST, does not prevent students from publishing academic research and may be the most suitable thesis format, in particular for students with no prior experience in publishing academic research.

# Creative and Cultural Industries – Compilation style thesis requirements

#### 1. How many outputs would you normally expect in a CST submission?

3-6 outputs.

#### 2. Types of output considered eligible for a CST:

- a. Published outputs;
- b. Manuscripts accepted for publication;
- c. Manuscripts under revision following referees' reports;
- d. Manuscripts submitted and under review by referees;
- e. Conference outputs which are sufficiently distinguished from outputs
- published or manuscripts accepted or submitted;
- f. Working manuscripts;

g. Practice outputs accompanied by a research statement and contextual information. These need to be outputs that are either already effectively shared or with a future dissemination/ exhibition agreement.

# **3.** The minimum number of published outputs and balance of outputs expected.

The thesis could be comprised of any combination of the outputs listed (a - g).

#### 4. Are outputs published prior to registration permitted?

An output published prior to registration is permitted including practice outputs that have been effectively shared. Such practice outputs must be accompanied by a 300-word research statement in the style of a REF submission.

#### 5. Is a separate literature review required?

A literature review or an equivalent research context chapter that situates your work within a review of literature and/or relevant practice work is required; this should also include a discussion of your methodology. Alternative formats for including the research context could be agreed with the supervisory team.

**6.** In cases of multiple authorship, how many outputs must have the student as the first or main author? *Students will need to specify the extent and nature of their contribution where there are multiple authors.* 

Students are expected to be the main or first author on all outputs included in the thesis.

# 7. How will the format of the annual review (AR) and major review (MR) reflect the nature of the thesis?

CCI will adopt the guidance in Section 7, p. 8 of this document.

#### 8. Any other disciplinary considerations?

No.

# 9. Where Professional Doctorates are offered, is the CST format permitted in the research phase and, if so, what are the expectations for 1-7?

Professional Doctorates are not currently available in CCI.

# Humanities and Social Sciences - Compilation style thesis requirements

#### 1. How many outputs would you normally expect in a CST submission?

We would normally expect the CST to contain a minimum of 3 articles/papers.

#### 2. Types of output considered eligible for a CST:

- a. Published outputs;
- b. Manuscripts accepted for publication;
- c. Manuscripts under revision following referees' reports;
- d. Manuscripts submitted and under review by referees;

e. Conference outputs which are sufficiently distinguished from outputs published or manuscripts accepted or submitted;

f. Working manuscripts;

g. Other types of output.

Languages and Linguistics – outputs need to be in quality, peer-reviewed publications. Journal articles, and manuscripts would be acceptable, but other types of outputs (e.g. book chapters, conference outputs) would need to be considered on an individual basis.

Criminology – a-f, plus book chapters are all acceptable (see 3 below for more detail).

Education - a-f, plus book chapters, but preference for peer-reviewed articles in quality outlets.

Sociology – a-f, plus book chapters, but preference for peer-reviewed articles in quality outlets.

# **3.** The minimum number of published outputs and balance of outputs expected.

Languages and Linguistics – at least one in category a; categories a, b and c can all be considered. E can be considered on a case-by-case basis.

Criminology – at least one in category a; conference papers can be included where preliminary results have been presented; can include a working manuscript but with clear plan as to where it is being submitted, how it fits with the wider research narrative etc.

Education – majority of chapters should be published/ at an advanced stage (under peer review) by time of submission. Working manuscripts should be kept to a minimum.

Sociology - majority of chapters should be published/ at an advanced stage (under peer review) by time of submission. Working manuscripts should be kept to a minimum.

#### 4. Are outputs published prior to registration permitted?

To be permitted, the following would normally apply (from p. 8 in the CST Guidance):

a. The publication (effective date of publication) was completed in the 5 years prior to registration for doctoral study;

b. The publication must be in a peer reviewed publication;

c. Not more than one such publication can be approved for inclusion in the PhD thesis (unless, exceptionally, the student is transferring in from another institution);

d. the publication should not have been submitted previously for another degree.

Languages and Linguistics – yes, subject to the limits above.

Criminology – yes, subject to the limits above.

Education - yes, subject to the limits above.

Sociology - yes, subject to the limits above.

#### 5. Is a separate literature review required?

Languages and Linguistics – yes, and must include a methodological section.

Criminology – yes, as part of main introduction to the thesis.

Education - yes.

Sociology - yes.

# 6. In cases of multiple authorship, how many outputs must have the student as the first or main author?

Languages and Linguistics – at least 3; contribution to additional co-authored papers must be made clear.

Criminology – expectation that the student will be the first author on all papers submitted (will need to justify if multiple authored papers).

Education - at least 3; contribution to additional co-authored papers must be made clear.

Sociology - expectation that the student will be the first author.

**7**. How will the format of the annual review (AR) and major review (MR) reflect the nature of the thesis? *Will you adopt the guidance in Section 7, p. 9? Are there other considerations?* 

Languages and Linguistics – will adopt guidance, plus a discussion of methodology will be required.

Criminology – will adopt guidance.

Education - will adopt guidance.

Sociology - will adopt guidance.

#### 8. Any other disciplinary considerations?

For all disciplines in FHSS, supervisors need to ensure examiners are aware in advance of the viva that the thesis follows the CST format.

Criminology – expected structure of thesis as follows:

- Abstract;
- Introduction explain why compilation; contains lit review;
- Foreword for each chapter expected these have usually been quite short (1 page maximum);
- Chapters aligned with the papers (with forewords, intro, literature background (approx 30 refs), methods, findings, discussion);
- Conclusion offers overall discussion; usually about 10k words.

# 9. Where Professional Doctorates are offered, is the CST format permitted in the research phase?

Criminology – yes, CST format permitted.

Education – yes, CST format permitted.

### Science and Health - Compilation style thesis requirements

#### 1. How many outputs would you normally expect in a CST submission?

A minimum of 3.

#### 2. Types of output considered eligible for a CST:

- a. *Published outputs;*
- b. *Manuscripts accepted for publication;*
- c. Manuscripts under revision following referees' reports;
- d. Manuscripts submitted and under review by referees;
- e. Manuscripts in preparation.

At least one paper needs to be a or b

# **3.** The minimum number of published outputs and balance of outputs expected.

Minimum three papers, primarily in categories a), b) and c).

#### 4. Are outputs published prior to registration permitted?

No. Only outputs produced during the registration period can be included.

#### 5. Is a separate literature review required?

The thesis will need to include a substantial introduction, which is not to be intended as a fully-fledged literature review but as an introduction to the theoretical context and rationale of the whole work. It will also need to provide an overview of the different studies/ chapters and how they form a coherent project.

**6.** In cases of multiple authorship, how many outputs must have the student as the first or main author? *Students will need to specify the extent and nature of their contribution where there are multiple authors.* 

As a rule, all the papers will have the student as first author, however in exceptional circumstances a CST can be accepted if a minimum of 2 papers have the student as first author.

# 7. How will the format of the annual review (AR) and major review (MR) reflect the nature of the thesis?

The AR and MR, depending on the stage the student is in, will require the student to report on the design and state of advancement for each separate study, and to justify their sequence in light of the project as a whole. Section 7 of the guidance can be followed, keeping in mind that the formulation of initial hypotheses is not relevant to all types of studies.

#### 8. Any other disciplinary considerations?

No

**9. Where Professional Doctorates are offered, is the CST format permitted in the research phase and, if so, what are the expectations for 1-7?** *It may only be 1,2 and 3 that differ.* 

A minimum of one submitted paper at a, b, c, or d stage would be required. The requirement for a substantial introduction and discussion will remain valid.

### Technology – Compilation style thesis requirements

#### 1. How many outputs would you normally expect in a CST submission?

Four.

#### 2. Types of output considered eligible for a CST:

- a) Published outputs;
- b) Manuscripts accepted for publication;
- c) Manuscripts under revision following referees' reports;
- d) Manuscripts submitted and under review by referees;

Outputs a) to d), restricted to outputs published during the PGRS registration period with us.

# **3.** The minimum number of published outputs and balance of outputs expected.

Four, primarily in categories a), b) and c)

#### 4. Are outputs published prior to registration permitted?

No. Only outputs produced during the registration period can be included.

#### 5. Is a separate literature review required?

In some fields it is considered necessary, in others, the literature review in each output is considered sufficient.

This depends on the papers included in the CST: some or all of these will have an element of a literature review contained in these papers. Where this review, or these reviews, are limited in nature, the supervision team will advise a separate literature review chapter should be produced for the CST.

# 6. In cases of multiple authorship, how many outputs must have the student as the first or main author?

Students will need to specify the extent and nature of their contribution where there are multiple authors.

All publications should have the student as first author, and members of the supervision teams must be included as co-authors where appropriate (Appendix B).

# 7. How will the format of the annual review (AR) and major review (MR) reflect the nature of the thesis?

Please see the Tec Faculty-specific guidance below, points 5 and 6.

#### 8. Any other disciplinary considerations?

No.

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# Faculty of Technology Guidance on Presenting PhD Theses in Compilation Style

PGRS may choose to present their research thesis in 'Compilation Style' rather than the standard PhD thesis.

PGRS should note such presentation is merely a different way of structuring and formatting their PhD research and not a different route to a PhD; the same Regulations for Research Degrees apply.

For full guidance please see the Compilation Style Thesis Guidance (PhD) published by the Doctoral College but PGRSs in the Faculty of Technology should adhere to the following Faculty specific guidance when considering presenting their work in a Compilation Style Thesis (CST).

1. Deciding to Start a CST. Students should obtain approval from their supervision team in the early stages of their studies and this should be documented and recorded in Skills Forge and ratified at Major Review (full time students) or first Annual Review (part time students), and noted in the Review outcome report.

2. Doctoral College Workshop. Both students and all supervisors on their supervision team must undertake the Doctoral College workshop Undertaking a Compilation Style Thesis early on in the registration. This attendance must be recorded in Skills Forge and the supervisors' ESS records.

3. Number and Nature of Papers. A minimum of four papers, produced during PGR registration, should form the basis of the chapters in the CST. The nature of these papers will be agreed between supervisors and PGRS. As with a standard PhD thesis, the CST must present novel contributions to the body of knowledge. Therefore, such papers could include the necessary supporting material such as methodologies, theories, implementation reviews, results and analysis.

4. Previous Papers. The CST only presents work undertaken by the student during their registration. Work published prior to registration must not be included in the CST.

5. Major and Annual Review. CST are subject to the standard regulations, requirements, panel and paperwork. However, additionally the first Major and Annual Review reports must include the following elements:

• Drafts of, or plans for, four anticipated papers;

• Identification for the research questions or hypotheses to be included in each of these papers;

• Identification of the anticipated contributions to knowledge for each of these papers and the PGRS' individual contributions;

- How these papers are linked;
- Timeline for completion for these papers and for the thesis as a whole.

Only if the panel are unanimous in their view that all these are satisfactory shall the decision to undertake the CST be ratified. This must be explicitly stated on the Major and Annual Review Outcome reports.

Supervisors must send reviewer(s) this guidance document, as well as the Compilation Style Thesis Guidance (PhD), prior to the review being arranged.

6. Subsequent Annual Reviews.

Annual Review reports must include:

• student's reviews of the progress of each of the four additional elements listed in 5), above;

• panel's review of this progress.

Panel's views and comments on progress of these additional elements must be noted and recorded on the Annual Review Outcome reports.

### Appendix B: Authorship

A PhD candidate is normally expected to be the first author of any outputs published arising from their doctoral studies. Whether the candidate should be the sole author of all, some, or any of the outputs will vary by discipline, and the supervisory team should provide advice on what is most appropriate. If an output has been produced in cooperation with other authors, the candidate must follow the norms for co-authorship and authorship order that are generally accepted in that field and are in accordance with international standards.

The University has adopted the UK Research Integrity Office (UKRIO) <u>Code of</u> <u>Practice for research</u>, section 3.15 of which addresses Publication and authorship and includes the following regulations:

3.15.4 Researchers should address issues relating to publication and authorship, especially the roles of all collaborators and contributors, at an early stage of the design of a project, recognising that, subject to legal and ethical requirements, roles and contributions may change during the time span of the research. Decisions on publication and authorship should be agreed jointly and communicated to all members of the research team.

3.15.5 Authorship should be restricted to those contributors and collaborators who have made a significant intellectual or practical contribution to the work. No person who fulfils the criteria for authorship should be excluded from the submitted work. Authorship should not be allocated to honorary or guest authors (i.e. those that do not fulfil criteria of authorship). Researchers should be aware that anyone listed as an author of any work should be prepared to take public responsibility for that work and ensure its accuracy, and be able to identify their contribution to it.

3.15.6 Researchers should list the work of all contributors who do not meet the criteria for authorship in an acknowledgements section. All funders and sponsors of research should be clearly acknowledged and any competing interests listed.

3.15.7 Researchers must clearly acknowledge all sources used in their research and seek permission from any individuals if a significant amount of their work has been used in the publication.

Candidates may also wish to familiarise themselves with:

- <u>CRediT</u> (Contributor Roles Taxonomy) statements which some journals require;
- The International Committee of Medical Journal Editors (ICMJE) guidance on Defining the Role of Authors and Contributors.

If you have any queries about the information contained within this document, please contact your Faculty or Deputy Director of Postgraduate Research in the first instance.

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