

Doctor of Philosophy (PhD) in Physical Therapy (PT) at Loma Linda University (LLU): Graduation Requirements – 26 Program Elements

The multiple-year research-oriented PhD degree has numerous elements that must be completed in order to assure a timely completion of program requirements. Failure to complete each of the following elements will adversely affect your program completion process. The program elements are listed below in chronological order:

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Note: Each of these 26 program elements have been further delineated into three sections and are described in greater detail in this document.

Program Director: Everett B. Lohman III, DSc, PT, OCS

Program Manager: Sondra Caposio

SECTION A: Didactic Portion of Program (Year 1 & 2)

The first two years of the PhD program are focused on didactic course work that will fortify the graduate student with a strong knowledge base in the following four domains: 1) Science, 2) Clinical Excellence, 3) Education/Teaching, and 4) Research/Statistics. The PhD student will typically satisfactorily complete approximately 57-units (prior MS/MPT degree) or 45-units (prior DPT degree) of didactic course work with a grade of B or higher within the first two years of the program.

Pre-matriculation: The Physical Therapy (PT) Graduate Committee will determine the availability of research advisors and dissertation chairs prior to the applicant's acceptance into the program. ***Initial Matching:*** Each student will be assigned an interim dissertation chair, based on the topic of research interest and availability, at the time of acceptance. This will assure that every student will have a dissertation chair; however, we anticipate that many of the students will secure an alternate dissertation chair during the formal matching process at the end of year 1 (Element 2).

1. **Element 1: Didactic Education – Year 1**

- a. The typical full-time student matriculates into the program in Fall quarter although other quarters are considered for admissions.
- b. Students will meet with their program director and/or program manager to develop a Plan of Study for the first year in the program.
- c. Bio-motor Control PTGR 580: Typically, the PhD student will register for this 3-unit Core course during their first year in the program. This is designed to expose students to specific research laboratories within the SAHP, LLU, and in the surrounding community.
- d. A minimum grade of 3.0 out of 4.0 (B grade) is required for all courses with letter grading or a satisfactory (S) grade for Satisfactory/Unsatisfactory courses.

2. **Element 2: Matching of Student with Dissertation Chair**

- a. Starting in the Spring quarter of the student's **first** year, each student will meet with their Program Director to discuss potential research interests and to discuss the selection process of their Dissertation Chair. The student will receive a list of the Major Professors who may serve as a Dissertation Chair. Students will initiate appointments with potential dissertation chairpersons from the approved Major Professor List to discuss each advisor's area of research interest and expertise. A signature sheet (PhD in PT Major "Professor Check List" form is available from the Program Manager) verifying these appointments will be filed with the Program Director. These appointments will allow students to focus on available areas of research support. They are intended to provide a background against which each student can begin to evaluate their own general area of research interest and move toward selection of a Dissertation Chair. Some students will seek admission to this program based on prior knowledge of and/or experience with the program or one or more of its faculty. In some cases, the student will

enter the program having had prior interactions with a specific Loma Linda faculty member and will have *de facto* commitment on the part of that faculty member to serve as the student's dissertation chair, should they enter the program. In such cases, students will still be expected to adhere to the general program requirement of meeting with all eligible research faculty members for purposes of becoming acquainted with the native research expertise of the program. All Dissertation Chairs must be from the Major Professor List. All Major Professors must be members of the LLU Faculty of Graduate Studies (FGS).

- b. If a student entering the program has *a priori* interest in a specific topic of research, or specific research project, that information can be communicated during this matching process and serve as an integral element in pairing that student with the most appropriate Dissertation Chair and research guidance committee. In any event, the choice of a proposed Dissertation Chair will be communicated by the student to the Program Director who will then serve as official liaison between students and potential dissertation advisors until such time as a dissertation chair has consented to serve and has been formalized.
- c. The PhD student will notify the Program Director once a Dissertation Chair is selected. The Program Director will contact the potential Dissertation Chair to confirm willingness and availability.
- d. Once the Program Director receives confirmation from the tentative dissertation chair, their name will be brought to the PT Graduate Committee for vetting and approval.

3. Element 3: Didactic Education – Year 2

- a. The Dissertation Chair will work with the program director in guiding the student as they choose the remaining “selectives” from each of the program domains. The courses selected should enhance the student’s knowledge base regarding their research topic.
- b. The typical student will register for the Comprehensive Examination (refer to Element 5) during their 8th quarter in the program or once they have completed approximately 57 units (prior MS/MPT degree) or 45 units (prior DPT degree) of didactic course work with a grade of B or higher. Students with Prior MS/MPT degree: Students will need to average approximately 12 units per quarter to complete their didactic courses within this 7-quarter time frame. This will also be based on availability of the selected courses. **Accelerated:** Students with prior DPT degrees may accelerate this process by 1 quarter by maintaining a minimum of 12 units per quarter and dependent on availability of selected courses.
- c. ***Research & Statistics III –Development and Approval of Research Topics and Questions– PTGR 693:*** The PhD student will register for the Proposal Development course during their second year in the program. Under the oversight of the PhD student’s Dissertation Chair, students will begin to formally develop their research topic and questions. Students will continue to narrow their focus and will work with their Dissertation Chair on instrumentation and processes that are more closely aligned with their research interests. The actual quarter within the second year in which students will register for this course may vary depending

on the recommendations of the Dissertation Chair; however, most students will register for this course during Fall quarter. Students will meet with their Dissertation Chair weekly (face-to-face or electronically). Substantive between the student and the Dissertation Chair will be documented.

- d. In Progress: The Dissertation Chair will submit an “In Progress” (IP) grade for up to 5-quarters or until all of the requirements for the course have been met.
 - a. Requirements: The student will have satisfactorily developed and publicly defended their research topic and questions to the satisfaction of their Dissertation Chair and their Dissertation Guidance Committee to receive a passing grade.
- e. A minimum grade of 3.0 out of 4.0 (B grade) is required for all courses with letter grading or a satisfactory (S) grade for Satisfactory/Unsatisfactory courses.

4. Element 4: Selection of Research Guidance Committee

- a. During their second year in the program, the Dissertation Chair will work with the student to select a tentative research guidance committee.
- b. The PhD in PT student’s dissertation chair and research guidance committee will include a minimum of three Loma Linda University faculty members with earned doctorate degrees and one external mentor (unless otherwise approved by the PT Graduate Committee).
- c. The Dissertation Chair will be a member of the Faculty of Graduate studies. Two of the three LLU researcher committee members will be from the School of Allied Health Professions (SAHP) and active members of the Faculty of Graduate Studies (FGS). The FGS will approve faculty per their published criteria. A Curriculum Vitae (CV) will be submitted by the external mentor to the department for acknowledgement as a part of the approval process.

5. Element 5: Written Comprehensive Examination

- a. Comprehensive examinations will be administered when students have successfully completed basic didactic courses in the program. The student must demonstrate competency in the following 4 domains: 1) Statistics and Research Design, 2) Education, 3) Applied Clinical Science, and 4) Other (e.g. Psychoneuroimmunology/Lifestyle Health, Biomechanics, Pain Science, etc.). The comprehensive examination will typically occur during the summer quarter of the student’s second year in the PhD in Physical Therapy program. The student will register for PTGR 599 Comprehensive Examination for 0 units prior to taking the examination.
- b. The written comprehensive examination will be given in four 3-hour examination sessions over two consecutive days (two 3-hours sessions per day).
- c. The comprehensive examination will be administered in a computerized essay format as determined by the program director or the department chair.
- d. To continue in the program, students will be required to pass all four domains of the Comprehensive Examination.
- e. If a student is unsuccessful in passing one or more of the domains, then the student will be given adequate time to prepare for a second examination over the failed domains. If the student fails the second attempt, a panel of SAHP faculty

selected by the program director or Graduate Committee will administer an oral comprehensive examination. If the student should fail the oral comprehensive examination the student would typically be dismissed from the program. However, in special circumstances the Graduate Committee does have the authority to recommend a plan of study, which may include additional coursework, independent study, auditing courses, etc., and recommend an appropriate period of time to elapse before the student is eligible for one final opportunity to retake the comprehensive examination (oral or written, as determined by the PT Graduate Committee and/or the program director).

6. Element 6: Annual Student Review Meeting

- a. At the end of each of year (4 quarters) of the 2 years of didactic education the student will schedule a meeting with the Program Director (PD) through the Program Manager. During this meeting the PD (with or without the Program Manager or designee) will review your performance in the program with you and will outline the key factors in the remaining program elements.
- b. During the research portion of your PhD in Physical Therapy program, the student will be required to set an annual student review committee meeting with the Program Director.

SECTION B: Research Proposal – Guided Studies

PTGR 693 - Research & Statistics III: Development and Approval of Research Topics and Questions – 3-units

Research-topic selection, development of research questions, literature review, oral defense of research topic, questions and proposed research design, and approval.
Prerequisite: AHRM 582. Note: Also described previously.

Student Contract: *The description of the requirements for successful completion of the Research & Statistics III course will follow and shall serve as a formal contract between the student and the Doctor of Philosophy (PhD) in Physical Therapy student, Program Director, Dissertation Chair, and the research guidance committee. The PhD student will work with their Dissertation Chair to select a dissertation guidance committee. Collaboratively, they will determine an appropriate dissertation topic. Following a comprehensive review of literature to identify current gaps in the literature the student will begin to refine their research questions. Once the topic(s) and questions are thoroughly developed, the student will perform a minimum of two (2) practice Topic and Question Defenses to their dissertation guidance committee. Once satisfied with the maturation of the questions, demonstration of an adequate knowledge base, and the student's ability to defend their topic and questions, the Dissertation Chair and student will work with the Program Manager to reserve a date and location for the Oral Topic and Questions Defense. The student will provide the Program Manager with the required materials to create an advertisement poster and post them throughout Nichol Hall a minimum of 3 weeks prior to the defense. Once the student successfully defends their*

Oral Topic and Questions Defense and have obtained all required signatures on Form A, a satisfactory grade will be entered.

PTGR 694 - Research & Statistics IV: Proposal Development and Institutional Review Board Approval – 3 units

With oversight by the research guidance committee, student develops a written research proposal that describes the problems to be investigated, the hypotheses and assumptions to be developed, and the proposed experimental design; and that subsequently is submitted to the Office of Sponsored Research for Institutional Review Board approval. Prerequisite: PTGR 693.

***Student Contract:** The description of the requirements for successful completion of the Research & Statistics IV course will follow and shall serve as a formal contract between the student and the Doctor of Philosophy (PhD) in Physical Therapy student, Program Director, Dissertation Chair, and the research guidance committee. The PhD student will submit a written proposal that describes: The problem to be investigated, the hypotheses and assumptions to be developed by the candidate and proposed experimental design. This proposal will be presented in a written format to their research guidance committee. Once the proposal is approved by the research guidance committee the candidate will, with oversight from the dissertation chair submit their proposal to the Office of Sponsored Research (OSR). Once the proposal has been approved by the OSR and the student has obtained a stamped Informed Consent Document, the course requirements will be satisfied.*

7. Element 7: Register for Research & Statistics III: Development and Approval of Research Topics & Questions (PTGR 693)

- a. Student will typically register for Research & Statistics III during their second year as approved by their Dissertation Chair and Program Director. By registering for this course, the student agrees to satisfactorily complete all of the requirements listed on the Student Contract. In addition, students must satisfactorily complete, in a timely manner, Elements 8-13 in their entirety in order to receive a satisfactory grade for PTGR 693 from their Dissertation Chair.
- b. Typically, students do not perform their oral defense until after they complete their Comp Exams during Summer Quarter at the end of Year 2.

8. Element 7: Initial Development of Research Topic, Questions, and Budget

- a. The Research Guidance Committee will guide the candidate as they explore possible research topics and develop original and novel research questions. The research guidance committee will also assist the candidate in the identification of potential study confounders or confines including but not limited to the committee's expertise and the school and candidate's available resources. The Dissertation Chair, in collaboration with the student, will contact the Program Director and Program Manager to schedule their oral defense of the research topic and questions.

- b. As a part of this process, the PhD student will provide a rationale and/or evidence supporting the relevance and importance of this study to the profession or overall body of scientific information. If the Dissertation Chair lacks familiarity with specifics of the candidate's desired project, this will also allow the chair to evaluate potential resource needs for successful project completion.
- c. The PhD student will prepare a **preliminary budget** under the guidance of the Dissertation Chair with input from the Program Director.
- d. At this point PhD students are encouraged to work with their dissertation chair to perform a pilot study (adhering to all LLU Institutional Review Board requirements). This will allow the student to perform *a priori* power calculation, sample size estimation, and to be able to better determine study feasibility, budgetary factors, as well as identifying possible design flaws early in the project and on a smaller scale.

9. Element 9: Oral Proposal of Research Topic, Questions, and Budget

- a. The PhD student will defend their proposed research questions to the Graduate Committee for Post-Professional Physical Therapy Programs, LLU students, and faculty, and an audience from the surrounding community. As part of the oral proposal, the candidate will include a preliminary budget. Following the oral proposal of the research topic & questions, the PhD student's Research Guidance Committee Members will take one of the following actions: 1) Approve the research topic and question, 2) Approve with modifications, or 3) Reject. This committee action will be based on the following criteria: 1) feasibility of the study, 2) rigor of the study, 3) appropriateness and relevance of the study, 4) faculty expertise, and 5) originality, novelty, and creativity.
- b. Major changes in the PhD student's research topic or questions following approval will require authorization from the candidate's dissertation guidance committee and these changes will be forwarded to the PT Graduate Committee to be recorded in the Graduate Committee's minutes.

10. Element 10: Confirmation of the Research Guidance Committee (RGC) Members:

- a. The Graduate Committee for Post-Professional Physical Therapy Programs and the Dissertation Chair will confirm the selection of the research guidance committee following approval of the research topic, questions, and budget. If the candidate and the Dissertation Chair have not already selected a complete research guidance committee, the Program Director and/or the Graduate Committee will assist the candidate in this process. On occasions, an additional RGC member or consultant may be recommended.

11. Element 11: Admission to Candidacy (Form A)

- a. After a successful defense the student, with assistance from the Program Director and Program Manager, will complete and submit the electronic "Advancement to Candidacy". This form, with required signatures, will be submitted to the Associate Dean of the Faculty of Graduate Studies (FGS). Candidacy is not official until the FGS formally approves the advanced to candidacy during the monthly FGS – Graduate Council meeting.

- b. Once approved by FGS, the PhD candidate can use the designation and abbreviate as follows: PhD (can.) or PhD (c.).

12. Element 12: Research & Statistics IV: Proposal Development and Institutional Review Board Approval – 3 units (PTGR 694)

- a. The quarter following confirmation and successful completion of PTGR 693, PhD in PT candidates will register for PTGR 694. The Dissertation Guidance Committee will again meet to assist the candidate in further development and advancement of the previously approved research topics and questions. During this process, the candidate's Dissertation Chair and dissertation guidance committee will begin informally evaluating the candidate's aptitude for conducting original research. The candidate will be expected to expand their comprehensive literature search, providing a basis for assessing originality and viability of the proposed project. **Note:** Clinical trial research should also attempt to identify the underlying mechanism responsible for the change or improvement, when feasible and must be registered with the Clinical Trials Registry.
- b. **Student-driven Research:** As the research topic is further developed through this process, the candidate will communicate to their Dissertation Chair specific objectives of the proposed project. The candidate will articulate concepts he/she believes to be vital to the study. The role of the Dissertation Chair will be to probe the candidate's understanding of her/his proposal and its implementation. The Dissertation Chair and the dissertation guidance committee members can initiate research topic enhancement, but at each step, it will be expected that the candidate will take the lead in research design and implementation. Because experimental design is one of the most significant components of any research endeavor, the PhD candidate will be expected to demonstrate independent skills in research design. The role of the Dissertation Chair and dissertation guidance committee will be to nurture and facilitate maturation on the part of the candidate.
- c. At this point, the statistician on the RGC will work to establish *a priori* determination of types of data analyses, sample size, effect size, and data management strategies. The probability of success of a research project is significantly enhanced when it is designed correctly from the beginning.
- d. Once approved by the research guidance committee and the dissertation chair, in collaboration with the SAHP IRB Liaison, the PhD candidate will be guided through a formal proposal submission and approval by the LLU Institutional Review Board (IRB). The written proposal should include:
 - i) A description of the problem to be investigated. This description should be presented within the context of a body of literature supporting the proposal as representing a valid and important study within its discipline and/or realm of scientific inquiry.
 - ii) A description of hypotheses and assumptions being advanced by the student. These can include original thought on the part of the student, as well as uninvestigated hypotheses and assumptions appearing in relevant literature. The candidate's presentation of this material should indicate

familiarity with, and an understanding of, the research problem and the context in which it is being proposed and will be investigated.

iii) A description of the proposed experimental design. Experimental design should be exhaustive in its coverage. The final proposal can be trimmed if needed, but the initial proposal should be an indicator of both the depth and breadth of the problem being investigated. This proposal is also an indicator of the student's current mastery of the topic of proposed study and thus, should err on the side of proliferation, not brevity.

- e. The proposal must also demonstrate the student's understanding of the concept of variables. If the study is to be experimental rather than descriptive, the proposal should differentiate, where appropriate, between dependent and independent variables and clearly distinguish between control and experimental elements.
- f. The proposal must describe protocols the candidate has designed for both experimental and/or descriptive elements of the study. It should also speculate regarding possible outcomes/results for each component of the study and how certain outcomes/results might redirect efforts or even modify study design. The proposal should also include tentative milestones by which to gauge progress both temporally and substantively (e.g., Gantt chart in Excel).
- g. During the planning stages of the study the candidate will use effect size to attempt to determine the needed sample size. The research guidance committee may recommend an initial pilot study that will allow the candidate to make reasonable estimates for mean differences, correlations, and variances. These elements will allow the student to perform a power analysis. If a larger sample size is needed, a study addendum will need to be forwarded to the Office of Sponsored Research for an amendment.

13. Element 13: Proposal Submission and Institutional Review Board (IRB) Approval

- a. Following approval from the SAHP IRB Liaison and the Research Guidance Committee, the PhD candidate will formally submit a research proposal to the Office of Sponsored Research through the dissertation chair. Upon approval of the research proposal by the Institutional Review Board (IRB) through the Office of Sponsored Research (OSR) the candidate will be expected to progress in a continuous fashion for the duration of her/his dissertation.
- b. Once an approved, stamped Informed Consent Document (ICD) is in the student's possession; the requirements for Research & Statistics IIIA will be completed.
- c. The PhD candidate hand delivers a copy of the approved stamped ICD and IRB approval letter to the Program Director.
- d. Immediately after receiving IRB approval the PhD candidate will formally meet with their Dissertation Chair at which time a satisfactory grade will be submitted for PTGR 694
- e. Although a maximum of 5 quarters are granted to complete PTGR 694, candidates must show proof of appropriate and continuous progress in order to receive an "In Progress" (IP) grade at the end of each quarter. PhD candidates must not assume that an IP grade will automatically be entered for them at the end of each quarter. It is the candidate's responsibility to meet with their Dissertation Chair at least one week prior to the end of the quarter to outline their progress.

Note: Grades are due no later than 4:00 pm three days after the last day of the quarter.

- f. The PhD candidate will meet weekly with their Dissertation Chair (and/or dissertation guidance committee). Proof of substantive weekly interaction will be documented.
- g. Clinical Trials: For clinical trials, PhD candidates will also need to register and then maintain their study through Clinicaltrials.gov.
- h. Once the student has received formal approval from the Institutional Review Board (IRB), the PhD candidate will bring a copy of a stamped Informed Consent Document (ICD) and approval letter to the Program Director.

14. Element 14: Quarterly Meetings with Research Guidance Committee

- a. For Research & Statistics III-VII the PhD candidate will meet weekly. In addition, candidates will meet with their research guidance committee (RGC) members a minimum of four times a year; however, there is no maximum number. The student will keep a log of these and all meetings. Many past PhD graduates report the benefits of meeting with the RGC on a much more frequent basis especially during certain periods in the program (e.g., prior to oral defenses) when candidates will find it necessary to meet on a more frequent basis. Significant hiatuses will not be allowed with an approved Leave of Absence.
- b. Meeting logs of meetings during Research & Statistics III-VII will be generated by the student/candidate and archived by the dissertation chair.
- c. Students failing to demonstrate progress towards completion of their dissertation will receive an unsatisfactory grade for that quarter's research and statistics class. The candidate can only carry an "In Progress (IP)" grade in a research and statistics course for a maximum of 5 quarters, after which the Dissertation Chair will enter an unsatisfactory grade. The student may re-register for the class at a tutorial rate for one additional quarter. If the candidate should fail to complete the course at this time the candidate will meet with the PT Graduate Committee.

SECTION C: Data Collection

PTGR 695 - Research & Statistics V: Data Collection (3,3 units)

Research data planning, setup, standardization of procedures, collection, electronic data capture, management, and storage leading to dissertation.

Student Contract:

Once the proposal has been approved by the Institutional Review Board the data collection process will commence. The candidate will meet with their Dissertation Chair a minimum of once weekly and their research guidance committee no less than once per quarter, which shall serve as a component for the progress report. The PhD student will register for a total of 6 units of Research & Statistics V during the data collection phase of their dissertation. Research & Statistics V will consist of 2 three-unit courses. The PhD student will register for the final 3 units once one of the following has occurred: 1) The student has collected

approximately 50% of the research data, 2) the student has been registered for 5 quarters, or 3) the first of two studies data has been collected. Recall: The student may carry an in progress (IP) in this course for a maximum of 5 quarters. Once the research guidance committee has verified that the data collection process has been successfully completed, the Dissertation Chair will submit a satisfactory grade for the second 3-units. Upon completion of this course the PhD candidate will contact their Program Director to discuss the anticipated program completion date and after confirmation from the Dissertation Chair; submission of Form C: Petition for Graduation to the Faculty of Graduate Studies.

15. Element 15: Data Collection (Register for Research & Statistics V – PTGR 695)

- a. The PhD student will register for 3-units of Research & Statistics V the quarter following the successful completion of Research & Statistics IV. The student contract above will serve as the contract between the student, the program, and the Dissertation Chair.
- b. The data collection process is expected to progress in a relatively continuous process. In human research it is not uncommon that subject recruitment will yield fewer subjects than initially expected. The research guidance committee should work with the student to develop a contingency plan, such as alternate recruitment sites or expansion of inclusion criteria, when the sample size is substantially short of expectations. A student in a research-oriented doctorate program cannot simply lower the number of subjects since sample size directly affects the statistical power of the study.
- c. A satisfactory grade will be entered for the first 3-units of Research & Statistics V once one of the following occurs: 1) the PhD candidate has collected approximately 50% of the data, 2) on multiple project studies, once data is collected on one of the studies a grade will be submitted, or 3) at the end of the 5th quarter.
- d. The PhD candidate will then register for the final 3-units of Research & Statistics V. Once the research guidance committee has verified that the data collection process has been successfully completed, the Dissertation Chair will submit a satisfactory grade for the final 3-units of Research & Statistics V (PTGR 695).
- e. Data Monitoring: Data sheets should be designed to complement the data collection process to minimize omissions and potential mistakes. During the data collection process it will be expected that the candidate will regularly reduce and assess the accumulated data for purposes of instrumentation/calibration and quality control. These interim assessments will be a conjoint effort between the candidate and Dissertation Chair or designee.

16. Element 16: Graduation Petition and Academic Variances Submission & Deadlines

- a. Two to three quarters prior to the contemplated quarter of graduation, the online PDF form titled “Gradation Petition for Graduate and Professional Programs” is due. This form is available online at myllu.llu.edu, “Student Resources” tab, and then under “Student Forms”. Once completed by the student, the form must go to the SAHP for signatures – the Program Manager will assist the candidate in this process. Once received, the Program Manager will assist the PhD candidate in

printing their Degree Completion Report (DCR) or LLU On-track Form. The Program Manager will collect all of the necessary SAHP signatures on behalf of the students. For candidates attempting to complete in time to participate in the June Commencement Ceremony, the Program Director or Manager will contact the dissertation chair to determine if an end of spring quarter completion date is feasible. Once completion feasibility is confirmed and all signatures are obtained, the Program Manager will submit the form to LLU University Records on behalf of the candidate. It is the PhD candidate's responsibility to follow up with the Program Manager to affirm that they have been included on the graduation list, that a spring quarter completion has been deemed feasible, the form has been both submitted and approved by both the sponsoring school and oversight school (FGS), and they have been approved to participate in the June Commencement Ceremony. Failure to do so may result in the unfortunate event that the candidate will not be eligible to participate in that year's commencement ceremony. Actual wording from the LLU Graduate Petition: *"Please Note: The school dean's office is responsible for obtaining a Faculty of Graduate Studies (FGS) signature and turning the form to University Records according to the degree clearance procedure submission dates"*. These dates are provided below.

- b. Academic Variances: If the Program Director approves a variance in the curriculum, the PhD candidate must work with the Program Director or Manager to submit an Academic Variance Form (electronic document). See table below for a list of deadlines by completion quarter.
- c. Deadlines for Graduation Petitions and Academic Variances:

Graduates and Deadlines	Spring and Summer Program Completion (June, Sept)	Fall Program Completion (Dec)	Winter Program Completion (Mar)
Academic Variances: Last day for School to submit approved form to University Records	October 1	March 1	July 1
Graduate Petition: Last day for the Student to submit Grad Petition to School	November 1	April 1	August 1
Graduation Petition: Last day for School to submit to University Records	December 1	May 1	September 1

SECTION D: Data Reduction/Analysis

PTGR 696 - Research & Statistics VI: Data Analysis (3 units)

Individual arrangements for doctoral students to work with their research guidance committee on analysis and presentation of research data. Student prepares manuscript presenting results of doctoral research study.

Research & Statistics VI Student Contract: Data Analysis

Student Contract: The description of the requirements for successful completion of the Research & Statistics VI course will follow and shall serve as a formal contract between the PhD Candidate, Dissertation Chair, and the research guidance committee. It is during this period that the candidate will perform formal analysis of the collected research data and write the Results Sections of their dissertation including tables with oversight from the statistician on the candidate's dissertation guidance committee. The Dissertation Chair will submit a satisfactory grade once data output and results have been thoroughly discussed with the Dissertation Chair and statistician. During this meeting, questions may be generated that may require additional statistical tests. Additional subjects may be required to achieve adequate statistical power. The PhD candidate must demonstrate a good understanding of the conceptual foundations of the statistical tests used in the study.

17. Element 17: Data Analysis (Register for Research & Statistics VI)

- a. The PhD student will register for Research & Statistics VI the quarter following the successful completion of Research & Statistics V. The contract above will serve as the contract between the PhD candidate, the program, and the Dissertation Chair.
- b. Although it is ultimately the PhD candidate's responsibility to analyze the data the typical research guidance committee will have a statistician as a member to help guide the candidate. The LLU Health Research Consulting Group (215 Evans Hall) will provide statistical support services for registered LLU graduate students. Statistical services up to \$1,500 per year will be covered by FGS. For more information the PhD candidate can contact the Associate Dean for FGS at extension 49484 or contact the Health Research Consulting Group directly at 44988.
- c. The Dissertation Chair will submit a satisfactory grade for Research and Statistics VI (PTGR 696) once the candidate has formally completed data analysis and has discussed the study output with the Dissertation Chair and statistician. During this meeting, questions may be generated that may require additional statistical tests. The PhD candidate must demonstrate a good understanding of the conceptual foundations of the statistical tests used in the study.

SECTION E: Defense & Dissertation

PTGR 699. Research and Statistics VII - Dissertation. 3 Units.

Individual arrangements for doctoral students to work with their Dissertation Chair and research guidance committee to submit a substantial and acceptable preliminary written doctoral dissertation-- either in the traditional formal dissertation or multiple chapter format--in accordance with published guidelines of the Faculty of Graduate Studies, and in the format of the journal in which the candidate hopes to publish. Students prepare and present an oral defense of their research findings.

Research & Statistics VII Student Contract: Preliminary Dissertation

Student Contract: The description of the requirements for successful completion of the Research & Statistics V course will follow and shall serve as a formal contract between the student and the Doctor of Philosophy (PhD) in Physical Therapy Candidate, Dissertation Chair, and the research guidance committee. The requirement for completion of this element of the research process is a substantial and acceptable matured draft of the written dissertation material in either the formal dissertation or multiple chapter format. The publishable paper, a program requirement, must be in the format of the journal in which the candidate plans to publish. The PhD must successfully perform an oral dissertation defense. Once the research guidance committee is satisfied that the intent of the Research & Statistics VII course has been completed; the Dissertation Chair will submit a satisfactory (S) grade. This will signify the end of the required didactic and research units if the candidate has followed the suggested sequencing of

the program coursework. Note: The successful completion of an oral defense of the dissertation is required.

Note: Although a formal written defense is a program requirement; these requirements do not occur as the final outcome of the Research & Statistics VII course. Following completion of Research & Statistics VII but prior to the posting of the degree, the candidate will complete all program requirements at which time the Form D. – Statement of Completion of Requirements for Degree will be submitted.

18. Element 18: Defense of Dissertation

- a. Each PhD candidate will orally defend the results and findings of their research project. This oral defense will occur no later than 25 days before the June commencement ceremony in order to participate. The student will be approved to give their oral defense once their Dissertation Chair and research guidance committee has had adequate time to review the student's preliminary dissertation and have determined that the student has demonstrated an adequate understanding of their research to successfully defend their study. The Dissertation Chair will work with the Program Manager and Program Director to schedule the oral defense once the PhD student has successfully presented their oral defense to her/his Dissertation Chair and dissertation guidance committee. The PhD candidate will work with the Program Manager to schedule a room for the oral defense, to format and print announcement posters, and to send out public notices via email. The PhD candidate will perform a minimum of two (2) practice Dissertation Defenses to their dissertation guidance committee. If it is determined that the student is not adequately prepared, an alternate date will be selected for the defense.
- b. Announcement Posters: After the Program Manager prints the oral defense announcement posters, it is the responsibility of the PhD candidate to post these announcements in the SAHP building (Nichol Hall).
- c. At the conclusion of the presentation, the floor will be opened for questions from the general audience and the research guidance committee. Once these questions have been satisfied, the audience will be excused, and the candidate's dissertation guidance committee members will meet privately with the PhD candidate. At this time the guidance committee may ask additional questions, request further clarification, and inquire into plans for publishing the research in peer-reviewed journals. The Program Director and the Department Chair may be present during this portion of the defense.
- d. Then the candidate will be excused and the entire dissertation guidance committee, if present, will determine if the candidate demonstrated competency in their research area consistent with a candidate of a research-oriented doctorate degree in a timely manner. The dissertation guidance committee may assign additional edits or study-related clarification at this time as deemed appropriate and necessary.
- e. If the decision is positive the guidance committee members will sign the "Faculty of Graduate Studies – Form D, Statement of Completion of Requirements for

Degree” with assurances that the final corrections or clarifications of the dissertation will be made according to the committee’s recommendations.

- f. If the decision is that the candidate has failed to pass the oral dissertation defense the guidance committee will so inform the candidate and will file with the Program Director, and on occasions the dean of FGS, a written analysis of the candidate’s performance with a plan and timetable for remediation or other course of action. The student will receive a copy of the guidance committee’s decision, analysis and recommendations. Recall: The candidate must successfully defend their dissertation a minimum of 25 days before the end of the contemplated quarter of graduation (spring quarter). Failure to do so will result in the PhD candidate not being able to participate in the commencement ceremony.

19. Element 19: Research & Statistics VII - Preliminary Dissertation (PTGR 699)

- a. The PhD candidate will register for 3-units of Research & Statistics VII the quarter following the successful completion of Research & Statistics VI.
- b. The student contract outlined above will serve as the contract between the candidate, the program, and the Dissertation Chair.
- c. The requirement for completion of this element of the research process is a substantial and acceptable draft of written dissertation material in either the formal dissertation or multiple chapters format. Since it is a program requirement to have one paper accepted for publication and a second paper submitted, the program recommends the multiple chapters format for the written dissertation.
- d. Once the research guidance committee is satisfied that the intent of the Research & Statistics VII (PTGR 699) course has been completed; the Dissertation Chair will submit a satisfactory (S) grade. This will signify the end of the required didactic and research units if the candidate has followed the suggested sequencing of the program coursework.
- e. If additional dissertation editing and writing are still required, the candidate must register for CREG 902 the following quarter.
- f. If no additional dissertation writing is required, the DSc candidate can skip Element 20. Please refer to Element 21 to make sure that all dissertation requirements are met.
- g. Although not required, at this point PhD in PT candidates are encouraged to submit proposals to conferences from their pilot study and/or dissertation findings (poster or podium presentations).

20. Element 20: Continuing Registration (CREG)

- a. Candidates, who are graded out of all coursework and the dissertation has been successfully defended with the stipulation that edits be made, must register for the CREG 902 Dissertation/Thesis Writing course and pay the appropriate enrollment fee each quarter until the finalized dissertation has been submitted and accepted (signed off by all appropriate entities) and University Records is notified by the school that all degree requirements have been met (requires submission of Form D with required signatures).

21. Element 21: Dissertation

- a. Each PhD in Physical Therapy candidate will complete and submit a dissertation. The dissertation will include all necessary documents that demonstrate competency in their research and related topics consistent with a candidate of a research-based academic doctorate. The first chapter will include a literature review. In subsequent chapters, the student will include a minimum of 2 publishable papers. The final chapter will include recommendations for future research, a synopsis of research key findings, and other relevant study-related information. Examples of forms, questionnaires, and descriptions of instrumentation can be added in appendices at the end of the dissertation book.
- b. In lieu of a traditional dissertation, a series of publishable papers (refer to the FGS “Thesis and Dissertation Format Guides”) may be utilized in the multiple chapters format. Please refer to the “Thesis and Dissertation Format Guide”, Loma Linda University, Faculty of Graduate Studies (FGS) Updated April 14, 2015 for the following: 1) preparing the manuscript, 2) format of the dissertation, 3) published paper format, 4) published material & copyright, 5) filing of the manuscript, 6) checklist for filing, 7) sample pages, 8) format checklist, and 9) required official copies.
- c. Assistance with dissertation formatting can be scheduled through the SAHP Writing Center.
- d. The PhD candidate must format their dissertation in accordance with the published Faculty of Graduate Studies guidelines and submit their dissertation to the Faculty of Graduate Studies’ dissertation formatting secretary. The dissertation secretary will sign and date the format checklist once the candidate’s dissertation is formatted correctly.
- e. The PhD candidate will assemble a compilation of the study results and an in-depth discussion section; the research guidance committee will determine if an additional literature review (additional dissertation chapter) is appropriate to determine or discuss the underlying mechanisms of novel research findings or if the ongoing literature review is adequate with appropriate modifications. The PhD candidate is expected to continue to update their literature review chapter in pace with emerging research.

22. Element 22: Dissertation Submission

- f. The PhD in PT degree is awarded in conjunction with the Faculty of Graduate Studies (FGS). Once the Research Guidance Committee (RGC) has finalized the dissertation writing, the candidate must email an electronic copy of their dissertation to the FGS Office. The FGS Dissertation Secretary will work with the candidate until the formatting is approved. The FGS office will then send the candidate a final approved version. At this point, the candidate will print the final approved version on bonded paper as well as uploading the electronic version to ProQuest (The FGS Dissertation Secretary has more detailed information on ProQuest procedures).
- g. Vouchers: Please refer to the School of Allied Health Graduate Studies website to print a voucher (Thesis/Dissertation Binding Expense Voucher) to waive the binding fees for your dissertations. There are also instructions printed on this

voucher that will address the special paper requirements for the printed dissertations.

23. Element 23: Submission of Papers to Journals

- a. Each PhD Candidate will submit a minimum of two (2) publishable papers to a peer reviewed journal.
- b. To complete the program requirements, one of the two papers must be accepted for publication. Some PhD programs require that 2 manuscripts must be accepted for publication; however, it is with intentionality that the PhD in PT at LLU has not adopted this requirement. The acceptance process often takes considerable time, which can significantly delay program completion. This can adversely affect a candidate's employability. On occasions PhD candidates will select a journal with a lower impact factor or page charges to expedite the publication process. By requiring only one accepted paper and one submitted paper, this allows the candidate to submit one of the papers to an extremely competitive journal (tier 1) with a high impact factor without delaying program completion.
- c. Prior to submission, the candidate should work with their Dissertation Chair to determine that the proposed journal is not a predatory journal.
- d. The candidate will provide the Program Director with printed evidence of the article submission and acceptance.

24. Element 24: PhD Candidate Exit Interview with Program Director

- a. The PhD Candidate will schedule a meeting with the Program Director at the time of the Form D submission.
- b. The candidate will be given oral and written exit interviews in an attempt to gain valuable programmatic assessment data to help assure and improve the quality of the program.
- c. At this appointment the candidate and the director will review the electronic Degree Compliance Report to assure that all of the required program requirements have been satisfied.
- d. At this meeting the Program Director will assist the candidate in completing Form D.

25. Element 25: Form D. – Statement of Completion of Requirements for Degree

- a. The student must schedule an appointment with the Program Director to review the Degree Compliance Report (DCR) or LLU On-track and PhD Program Checklist to ensure that all program requirements have been met. Form D is due at the SAHP Graduate Committee via the Program Director and the Faculty of Graduate Studies a minimum of nine (9) days before the end of the contemplated quarter of graduation (Spring quarter).
- b. Diplomas will not be processed until Form D has been received by University Records. Diplomas will be issued with the name of the sponsoring school (SAHP) with the additional statement "Awarded in conjunction with the Faculty of Graduate Studies" on the diploma.

26. Element 26: Requirements for Participation in the Commencement Ceremony versus Requirements for Program Completion

- a. Students often get confused by the term “graduation” requirements. In the PhD in PT program, we divide “graduation” into the following two areas: 1) Participation in the Commencement Ceremony (graduation ceremony, June each year) and 2) Completion of the program requirements for Program Completion (diploma). Below we have outlined the requirements for both:
- b. Participation in Commencement Ceremony:
 - i. Successful completion of Comp Exam
 - ii. Submission of Advancement to Candidacy
 - iii. Graduation Petition (2 quarters prior to participation in ceremony)
 - iv. Successful completion of the Oral Defense – Dissertation
 - v. Submission of Form D
 - vi. Satisfactory of PTGR 699 Research & Statistics VII – Preliminary Dissertation
 - vii. *Submit Form IIB (if applicable)* – See below
- c. Program Completion:
 - i. One paper accepted for publication in a peer-reviewed journal
 - ii. One additional paper submitted to a peer-reviewed journal
 - iii. Dissertation approved by the PhD candidate’s research guidance committee
 - iv. Dissertation format accepted by the FGS
 - v. All program requirements completed on the Degree Compliance Report (DCR)
 - vi. Complete Elements 1-26

NOTE: The Faculty of Graduate Studies will provide oversight of the rigor and quality of the research projects and dissertations as well as providing guidance and resources for the dissertation chair and research guidance committee.

NB: Dissertation format per the “Thesis and Dissertation Format Guide”, Loma Linda University, Graduate School, April 14, 2015.

Last Updated: February 14, 2023

Doctor of Philosophy (PhD) in Physical Therapy (PT) at Loma Linda University (LLU): Graduation Requirements – 26 Program Elements

Acknowledgement of Discussion & Receipt of the Program Requirements

By signing this document I acknowledge that I have received the PhD Program's Graduation Requirements - 26 Elements and a copy of the Loma Linda University Faculty of Graduate Studies Dissertation & Thesis Guidelines. The program director has discussed the program's research, dissertation and graduate requirements.

My questions have been answered to my satisfaction. I acknowledge that I understand that I can contact my program director as additional program questions regarding program requirements and deadlines arise. I acknowledge that I am ultimately responsible to initiate the submission of Form A, Graduation Petition, and Form D to the Faculty of Graduate Studies Office, Griggs Hall Room 107 or 108 within the appropriate timeframes as specified in the Graduation Requirements - 26 Elements document.

Student Name (Print): _____.

Signature: _____ Date: ____/____/____.