

Translational Science Proposal: Summary of Changes

Thank you for the recommendations given during the October 26th GAC meeting. We have reviewed and responded to those recommendations as well as the recommendations from each reviewer below.

Comments / Recommendations from the October 26th GAC meeting:

- Need to provide framework of why we're doing what we're doing. It would be helpful to provide an outline that describes whole program. Perhaps even a few introduction pages to better describe program (at least 2 pages). **Please see attached Executive Summary in Appendix C.**
- It would be helpful to have diagram with description of the whole cycle of T research & how it works. **Please see attached Matrix in Appendix C.**
- Show how this degree fits with Clinical Research. **Please see attached Matrix in Appendix C. Additionally, we have included charts delineated out the similarities and differences between our program elements and those currently on campus. Please see attached comparison documents in Appendix C (Cert Curriculum Trans Sci 110510 - Comparison of Certificate in Translational Research and Certificate in Clinical Research; Minor Curriculum Trans Sci 110510 - Comparison of Minor in Translational Research and Minor in Life Sciences; Comparison MS Trans Sci MS Clin Res 111210 - Comparison of MS in Translational Research and MS in Clinical Research).**
- For cert / minor – include potential electives (i.e. diabetes & obesity, etc.). **These have been added to each proposal (for the Certificate proposal, see page...; for the Minor, see page...)**

Reviewer #1

- **“The details and assurances of the protected time are lacking.”** In order for students to complete this program, they will need to work with their home department to secure the required 70% protected time. Documentation of this protected time will be provided in the form of a letter of support from the Department Chair or otherwise authorized representative.
- **“A potential weakness of the curriculum is that it is very classroom heavy.”** A significant portion of the program requires students to work with mentors in a laboratory and conduct mentored basic science / translational research (7 to 9 credits).

- **“Further, it is not clear if there is tuition forgiveness for the students in this program.”** The home department will be responsible for handling tuition forgiveness.

Reviewer #2

- No response needed.

Reviewer #3

- **... it is not clear why the MS should be confined to Medicine? Why in Pediatrics?** The location of the program within Medicine and Pediatrics is purely pragmatic. IUSM received the Clinical and Translational Science Award, which has initiated this program. The Program Director and Program Coordinator are housed within the Pediatrics Department. Since this program is intended to be multi-disciplinary, there is really not a specific academic department created on campus that would best reflect this.

- **Why in Molecular Medicine?**

The Molecular Medicine component is reflected in the CIP code. We were given two options for the CIP code: Molecular Medicine and Medical Scientist. The MS in Clinical Research degree lists the Medical Scientist CIP code so we chose to use the Molecular Medicine code to help differentiate between programs.

- **I would like to see the MS more clearly defined in a way that does not preclude similar degrees, with the same general name, but with foci on the sciences and inclusion of the arts and humanities (and what about informatics?).**

The vision for this program is to offer a training program for both basic and clinical scientists. This program will integrate training in cutting edge basic science with human health and disease using a unique model of dual mentorship from both medicine and basic science. Thus, the TSPI will provide the training mechanism for physicians and scientists to develop an understanding of human disease at both a basic and clinical level. Because the ICTSI is a state-wide program centered in the School of Medicine, the program will access available resources from Indiana University School of Medicine, as well as Purdue, Bloomington, and IUPUI to provide cross-disciplinary training for physicians and scientists at multiple locations.

We were advised to break this training program down and start by offering the training track for the individuals who have a clinical background. As the program becomes established, we will be able to add tracks to provide training

to other specialties. It's our goal to reach other interested disciplines and bring them to the table. The program will require overlapping coursework between the different specialties, which will emphasize teamwork and collaboration. Additionally, students may adapt this program to fit their area of specialty by the mentors, coursework, and research area selected. This would accommodate a wide range of student specialties without making the program overly cumbersome.

- **“It is not clear to me whether those prospective students would be working as post-docs or clinically, too, as one way of paying for the cost of the additional credential.”**

Students would be working within a department, either as a fellow, post-doc or clinically. Fee courtesy would be one possible option. Additionally, departments may use this program as the training component of a training grant, which would help pay for this. Otherwise, interested students would be responsible for paying their own way.

- **I recommend ... that the School of Medicine have conversations with the Schools of Engineering and Sciences ...**

This recommendation is well-taken. We have eagerly sought out those individuals on campus who might be interested in this program. We have held stakeholder meetings with Purdue – School of Engineering, Indiana University Bloomington, and Indiana Clinical and Translational Institute (ICTSI) Program Leaders.

Due to the collaborative nature of the ICTSI, we have worked to create a cross-campus collaboration on our Tools and Techniques in Translational Research course with Purdue (Dr. Jon Story), Notre Dame (Dr. Mayland Chang), and Indiana University Bloomington (Dr. Bill Hetrick). CTSI trainees were required to take our course. These students reflect the diversity of translational research, ranging in specialties of statistics, informatics, psychological and brain sciences, nutrition, and medicine.

Changes made to the Ph.D. Minor Proposal

1. Included a comparison document, which compares the proposed Ph.D. Minor in Translational Science with the Ph.D. Minor in Life Sciences.
2. Made some minor editing changes on page 2.
3. Added Table 2: Potential Elective Classes for Translational Science (p.3)
4. Clarified Short-term outcome # 3 on page 8.
5. Updated the Overview and Procedures on page 9.
6. Updated the student population on page 9.
7. Added Additional Faculty Involved in the Program on pages 11 & 12. These are faculty who are involved in the core coursework (Tools and Techniques in Translational Research and Quantitative Aspects of Translational Research).
8. Deleted “The final product will be a graduate with a Ph.D. Minor in Translational Science who understands human disease at both the basic and clinical level.” from the Distinctive Features & Strengths of the Program section on page 13.
9. Replaced “A common academic system” with “As the program grows, collaborative agreements will be established between partnering universities to allow” in the Collaborative Arrangements section on page 14. Also, added “multi-disciplinary” in the first line of this section.

Changes made to the Certificate Proposal

1. Included a comparison document, which compares the proposed Certificate in Translational Science with the Certificate in Clinical Research.
2. Made some minor editing changes on pages 2, 3, 5, & 10.
3. Clarified Short-term outcome # 3 on page 12.
4. Updated the Procedures on page 13.
5. Added Additional Faculty Involved in the Program on pages 20 & 21. These are faculty who are involved in the core coursework (Tools and Techniques in Translational Research and Quantitative Aspects of Translational Research).
6. Replaced “A common academic system” with “As the program grows, collaborative agreements will be established between partnering universities to allow” in the Collaborative Arrangements section on pages 24 & 25. Also, added “multi-disciplinary” in the first line of this section.
7. Updated the student population on page 15.
8. Added “multi-disciplinary” in line 2 of the Master of Science in Translational Science on page 17.
9. Added “multi-disciplinary” on page 19 in the ICTSI section to the second line from the bottom – “A clear goal of the Indiana CTSI is to develop and implement multi-disciplinary training programs for both T1 research (bench to bedside) and T2 research (bedside to community).”

Changes made to the MS Proposal

1. Added “multi-disciplinary” to the Goals/Objectives section on page 1 (last line of paragraph).
2. Clarified Short-term outcome # 3 on page 6.
3. Added Additional Faculty Involved in the Program on pages 22 & 23. These are faculty who are involved in the core coursework (Tools and Techniques in Translational Research and Quantitative Aspects of Translational Research).
4. Replaced “A common academic system” with “As the program grows, collaborative agreements will be established between partnering universities to allow” in the Collaborative Arrangements section on pages 29. Also, added “multi-disciplinary” in the first line of this section.
5. Made edits to page 38 on IUPUI’s coursework.
6. Added Appendix C. Informational Material (includes an executive summary of the program, matrix – explaining the cycle of translational research, comparison of minor, comparison of certificate, and comparison of MS degree) (change on table of contents and added on page 179).

Final Note:

Thank you once again for reviewing our proposals so thoroughly. We hope that the information provided back will clarify the questions and recommendations as well as convince the committee of the program’s viability. We look forward to the opportunity of implementing this multi-disciplinary program.