


# **Integrated Applied Practice Experience and Integrative Learning Experience Project guide for the MPH in Clinical Translational Science**



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**THE OHIO STATE UNIVERSITY**

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COLLEGE OF PUBLIC HEALTH

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# INTEGRATED APE AND INTEGRATIVE LEARNING EXPERIENCE PROJECT FOR THE MASTER OF PUBLIC HEALTH IN CLINICAL TRANSLATIONAL SCIENCE

## Overview

The objective of the Applied Practice Experience (APE) and the Integrated Learning Experience (ILE) Project in the Master of Public Health with a specialization in Clinical Translational Science (MPH-CTS) is to demonstrate competency attainment and provide the student with research and relevant practical experience that constitute the foundation for a career in investigative clinical translational science. These experiences range from the initial generation of a testable hypothesis to study design, data collection, data analysis, and include addressing a need in a health care stakeholder organization external to the College of Public Health. This Applied Practice Experience ideally connects the students research project to the identified health care need and results in a proposed written plan and slide presentation that addresses this need. The Integrated Learning Experience consists of a written report in the form of a journal manuscript submission that provides the student the opportunity to analyze and discuss data using the skills and competencies acquired in the MPH curriculum. Accordingly, the Applied Practice Experience and the Integrated Learning Experience provide the student with the fundamental understanding of the broad spectrum of clinical translational science research and the relevant application of this research that is the foundation for a career of advancing health care through clinical and translational research.

Accordingly, the APE and ILE encompass different stages of the spectrum of experiences but are, in fact, a continuum in the process of new knowledge discovery and application. The table below summarizes the key points to know about the APE and ILE:

	APE	ILE
<b>Pre-requisites/timing</b>	Students must complete at least one semester of coursework in MPH program prior to starting the APE;	Usually completed after the APE, in the final semester of MPH
<b>Setting</b>	Work with preceptor at a governmental, non-governmental, non-profit, industrial, or for-profit site outside the College of Public Health	Work under the guidance of a faculty member in the Colleges of Medicine or Public Health
<b>Primary activity</b>	Practical, operational work with a site preceptor	Applied research or practice-based project including Data collection, analysis, and synthesis of findings
<b>What to submit</b>	Two work products ( <i>written plan &amp; slide show presentation</i> ) Student evaluation Preceptor evaluation Faculty advisor evaluation Final report	<ul style="list-style-type: none"> <li>- Research paper</li> <li>- Formal presentation to ILE committee</li> </ul>

<b>To read more</b>	<a href="https://cph.osu.edu/mph/appliedpracticeexperience">https://cph.osu.edu/mph/appliedpracticeexperience</a>	<a href="https://cph.osu.edu/students/graduate/mph-integrative-learning-experience">https://cph.osu.edu/students/graduate/mph-integrative-learning-experience</a>
<b>To register</b>	Register using the online APE Learning agreement, found at: <a href="https://cph.osu.edu/mph/appliedpracticeexperience/students">https://cph.osu.edu/mph/appliedpracticeexperience/students</a>	Submit your enrollment request for PUBHLTH 7998 via the CPH course enrollment permission form: <a href="https://go.osu.edu/cphpermissionsenroll">https://go.osu.edu/cphpermissionsenroll</a>

## **The Applied Practice Experience (APE)**

For the MPH-CTS, the APE represents an opportunity for the student to work in a health care environment and address a health care need that is relevant to the student's clinical or translational research project that is ultimately addressed in the ILE. For example, a student with a basic or translational research project may work in a clinical environment addressing the care of patients with diseases or disease risk relevant to that research.

The APE will provide the student with the opportunity to understand the challenges faced by both patients and health care workers and devise a written plan and accompanying slide presentation as to how to address those challenges, ideally incorporating the topic of their own research and how it may be applied to an unmet need. Similarly, a student with a clinical research project may use the APE as an opportunity to better understand the "real life" factors contributing to the focus of their research project and, as above, design a written plan and slide show proposing how to address challenges and take advantage of factors promoting a desired outcome. In both cases, the students will share their plan and slide presentation with the health care stakeholders that have supervised them in their APE.

Because of the special nature of the CTS program, many students begin their (APE) earlier than would be typical in other specializations. Engaging in an APE will not only provide them with practical experience but also inform their own research program. In addition, the student should be exposed to the public health issues and ethical concerns that arise relevant to their research. Students should be active participants in the arrangements for an APE working closely with their advisor, other college faculty, staff in OAPSS and members of a health care organization or team to learn of important college deadlines and required paperwork.

As its name implies, the APE advances the practical skills and understanding involved in any clinical or translational research project. In addition, this should motivate the student's greater understanding of the relevance of their research program to a larger public health context. The typical MPH-CTS APE elements are discussed in the Procedures, Deliverables and Final Report sections of this document.

### **APE Procedures**

The Master of Public Health requires a minimum of two credit hours of (APE) for students in any specialization. Students must spend at least 120 hours focused on the APE to meet the minimum requirement (60 hours of work equal one credit hour). The hours may be distributed in whatever way makes sense for the student's schedule and the requirements of the work (e.g., 10 hours per week for 12 weeks, a varying schedule over multiple semesters, etc.).

CTS students are encouraged to begin discussions of possible APE opportunities with their advisor and potential research mentors and APE mentors as soon as possible after beginning the program. Once an APE has been identified, an Online APE Learning Agreement must be completed. The Online Learning Agreement can be found on the CPH APE Site <https://cph.osu.edu/mph/appliedpracticeexperience/forms-documents>. This is the verification that the APE has the approval of both the research mentor, the advisor, and the health care mentor and in addition, this notifies the Senior Career Counselor in the Office of Academic Programs and Student Services that the student will be accumulating (APE) hours.

Recognizing the unique requirements specific to the APE in the MPH-CTS, students are permitted, with permission of their faculty advisors and research mentors, to begin the (APE) after completing PUBHLTH 6001 or equivalent or concurrent with enrollment in the course. Thus, a student taking the typical course schedule may begin the APE as early as the first semester of regular course work, two or more semesters earlier than is typical for students in other MPH specializations; however, the APE is not complete until all deliverables have been submitted. The expectation for the MPH-CTS is that most students will complete the course work and begin their research during the first year, and then continue their research under the guidance of the research mentor after that year.

A maximum of two credit hours of APE credit (PUBHLTH 7189) may count towards the degree. In some cases, CTS students may receive approval from the Director of the MPH-CTS program to begin the APE with a health care mentor in the summer before required core course work is initiated. This is an excellent opportunity to gain insight into the health care challenges that inform relevant clinical and translational research. This further adds relevance to subsequent didactic training.

The APE is graded S/U. The grade is assigned by the advisor based on evaluations of the student's experience and final APE report by both the advisor, the research mentor and the health care mentor.

### **Assessment Products of the CTS MPH (Applied Practice Experience)**

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There are three products that are required to be completed and submitted at the conclusion of the APE: 1) two work products 2) student/preceptor/faculty evaluations, 3) final report

#### **1. APE Deliverables/Work Products**

The deliverables for the APE must address the student identified competencies through the two work products; the written plan (work product #1) that addresses the health care unmet need that is investigated through the student's APE with a health care stakeholder. The problem may be identified prior to the APE through a literature review

or other sources of information or may arise during the student's time with the health care stakeholder and organization. The solution plan is based on the observations and learning acquired in the selected health care program and ideally will be relevant to the student's research project that is finalized in the integrated learning experience. proposing a solution to the unmet health care need addressed in the APE and a slide show summary (work product #2) of this report. Both are to be shared with the health care stakeholder that mentored and hosted the student's work. The plan is separate from the final report and consists of a proposed solution to an unmet health care need the student has identified as part of the APE. This unmet need may be related to topic of the student's overall research program or may be a separate health care challenge encountered by the student. As an example, the student may identify during the APE that certain patient groups are underserved by a health care program and may provide a plan as to how access to the program by these populations could be improved. This plan will be based in part by the new understanding the student gains during the APE.

Consult with your faculty advisor about concerns or questions about the choice of demonstration products or upload format.

## **2. Evaluation forms**

Three evaluation forms are required: student, preceptor, and faculty evaluations. All evaluation links for the student, preceptor, and faculty advisor can be found on the CPH Applied Practice Experience page. All parties are required to complete the evaluation in order for the student to fulfill the requirements for the (APE). When the student and preceptor evaluations have been completed, they will be routed electronically to the faculty advisor.

## **3. Final Report Requirements**

All students are required to complete a final written report that will focus on sharing information regarding the APE experience.

The report should contain the following sections.

### **TITLE PAGE**

- Your title page should consist of your name, division, cohort year (year you entered the College), project title (as stated in your learning agreement), research mentor (preceptor), health care organization, health care mentor, your faculty advisor, and date of submission.

### **INTRODUCTION**

- Discuss the motivation for choosing the health care organization or stakeholder that hosted the APE

- Discuss how the selection of this health care organization or stakeholder was based on your research interests and project
- Briefly describe the health care program and mentor (s) that hosted the APE. As examples, was this an inpatient or outpatient patient care facility, focused on acute care, chronic care or disease prevention, etc?
- Describe in general your duties and activities within the health care environment hosting the APE

The APE report must represent your own individual work. Permission is required from your research mentor and faculty advisor to participate in a project with other CTS students. If you are working on a collaborative project, explain your area of responsibility and describe your contribution to the project.

## **GENERAL PROJECT GOALS AND OBJECTIVES**

- State the specific health care need or problem you identified during the APE
- What environmental or systematic challenges did you identify as contributing to the health care need
- Outline the solutions to this problem or need based on what you have learned in the APE and from discussion with your health care mentor.
- How does your planned solution address the environmental or systematic factors that contributed this need?
- How do you believe your plan could be implemented?
- How does what you have learned during the APE inform your own research and how might your research contribute to the solutions?
- What is the general public health relevance of your project?
- Describe how your planned learning objectives align with the program competencies you selected for the (APE). List the APE activities that link to each competency. Students must address five competencies total; three foundational and two specialization competencies.

## **SUMMARY & CONCLUSIONS**

- How does this work impact the future of this public health issue?
- Summarize recommendations

## **EVALUATION**

- Provide a careful evaluation of the APE
- Was it a valuable learning experience? Why or why not?
- How did it compare with your expectations?
- What types of classroom skills were you able to employ in the field?
- What did the experience teach you about the world of public health practice?



## **OPTIONAL APPENDIX**

- Other relevant materials may be included as an appendix

The student will post all assessment products that they create including (final report, two work products, and a final report) to Carmen. Students with questions about any assessment products should consult with their faculty advisor.

Both the faculty research mentor and the faculty academic advisor will be responsible for verifying the achievement of the APE objectives and your performance.

For advice on fulfilling the above requirements, please consult your faculty advisor.



## Checklist of Requirements for the CTS Applied Practice Experience

### Prior to beginning the APE:

\_\_\_ Review the APE and ILE guidelines (*explains rules, contains forms*).

\_\_\_ When the APE is confirmed complete Online Learning Agreement found on the CPH APE website. Submission of the online APE learning agreement will electronically route the agreement to the faculty and preceptor designated on the form by you for approval. The APE course (PUBHLTH 7189) will be added to your schedule when all approvals have been given. APE forms can be found on the CPH website: <https://cph.osu.edu>.

### During the APE:

\_\_\_ Keep your faculty advisor and research mentor informed of your progress.

\_\_\_ Schedule a mid-APE progress review with your advisor, health care mentor and research mentor; have any changes in the project approved by all.

\_\_\_ Discuss your proposed APE written plan with your research mentor, health care mentor and faculty advisor for their suggestions and approval.

### Final Preparation:

\_\_\_ Submit one copy of your final APE Report to your advisor and each member of your committee and to CARMEN

\_\_\_ Submit an electronic copy of the final approved APE Report, two demonstration products, and Evaluations to the Carmen APE course by the first day of final examinations for the semester.

**NOTE:** APE forms and semester deadlines can be found on the [CPH website](#)

## **The Integrative Learning Experience Project**

MPH-CTS students satisfy the Integrative Learning Experience project (ILE) by analyzing their research findings using appropriate statistical methods and reporting the results of their project in a written format in the style of a manuscript submitted to a peer-reviewed edited scientific journal. Though students may collaborate with others on the project, the final report must represent the student's own work.

Completion of the ILE is contingent upon review and approval of the final report by a committee of the faculty advisor and a second reader. Both committee members must have category M or P Graduate Faculty status in the College of Public Health. An additional graduate faculty member may serve on the committee if the research mentor does not meet these criteria. Students may present their final work at the annual Graduate Student Research Day. In addition, they are encouraged to submit abstract summaries of their work at national meetings and to publish their findings in an appropriate peer-reviewed scientific journal.

### **Integrative learning Project Report**

The final report for the ILE project must represent your own individual work. If you are working on a collaborative project, your final report must be some aspect of the project that you completed yourself and must be in the format of a peer-reviewed journal article.

The MPH-CTS ILE final report should include the following elements:

1. Title Page
2. Abstract – brief summary of the project
3. Introduction and Background – rationale for the project; what is the basic research and why is it of interest
4. Literature Review – synthesize information written by other researchers and evaluation it according to the guiding concept that you have identified for your project
5. Methods – what were the methods and procedures used to collect and analyze data, what were the key variables of interest, and how were those variables measured
6. Results – describe the results of the data analyses and refer to any tables and figures within the text; reference any tables used from other sources
7. Discussion – interpret the data as they relate to project questions, goals, and objectives; discuss the implications of the findings and how they may impact public health

For more details on the integrative learning project report, consult your faculty advisor.

## Timeline and Checklist of Requirements for the CTS ILE Project

### Two semesters prior to the term/semester of completion:

- Discuss your ILE project with your faculty advisor.
- Provide your advisor with an outline of your ILE project that includes the draft title, the public health question that will be addressed, and the methods for addressing the question.

### The term/semester prior to completion:

- Submit the [registration form](#) to register for PUBHLTH 7998 for 3 credit hours during your second to last term/semester.
- Work with your advisor to identify a second reader with appropriate Graduate Faculty status to serve on your master's exam committee **at least one term/semester prior to the semester of graduation.**
- Submit the electronic application to graduate by the last day of classes prior to the semester you intend to graduate. The application is online: <https://gradforms.osu.edu>.

### The final semester:

- Meet with your faculty advisor and agree upon a timeline to complete the requirements for your project.
- The Master Exam Report will be submitted and signed electronically by your advisor and second reader by Graduate School deadlines. Therefore, your project should be completed by the 4th week of the semester. **A first draft of the integrative learning project must be submitted to your advisor and second reader no later than 1 month prior to Graduate School deadline.**
- Keep your advisor updated on your progress.
- Submit the final copy of your project to your committee by the deadline specified.
- Submit an electronic copy of your approved project to OAPSS by Graduate School deadlines.

## **Responsible Research Practice Requirements** (Appendix H of the CPH Handbook)

Many students in the College of Public Health are involved in research, either for their own degree requirements or in work assignments with faculty members or others. It is essential that students learn and abide by the applicable rules concerning research involving human or animal subjects. This topic will be covered in some courses as appropriate. This summary is intended to provide an overview. You are strongly advised to contact your faculty advisor or employer about the procedures described below.

### **What research is covered by this policy?**

All research that collects data from human subjects needs to be approved by the OSU Institutional Review Board (IRB). All research involving animals needs approval from OSU Institutional Animal Care and Use Committee (IACUC). This includes integrative learning projects, these and doctoral dissertations. In a few rare cases, practicum placements might also need approval if it involves collecting research-type data. When IRB or IACUC approval are necessary, such approval must be obtained before any data collection begins. Allow 6 weeks or more from submission to approval.

### **Research with human subjects**

#### **When do projects need IRB approval?**

The linked document from Ohio State's Human Research Protection Program defines clearly what constitutes "research" and what types of research require IRB oversight. The document can be found here:

<http://orpp.osu.edu/irb/osupolicies/documents/ResearchInvolvingHumanSubjects.pdf>

Table 1, on pages 6-8, is a very useful guide to when IRB oversight is required. If your research seems to fall into a "gray area" not clearly covered by this document, contact Ohio State's Office of Responsible Research Practices for help.

#### **Procedures for human subjects research approval**

Students should work closely with their faculty advisors to complete the necessary materials to secure approval for research with human subjects. Guidance, forms and directions are available through the Office of Responsible Research Practices:

<http://orpp.osu.edu/irb>.

All faculty, staff and students participating in human subjects research at Ohio State are required to complete the Collaborative Institutional Training Initiative (CITI) web-based course on human subjects available at <http://orpp.osu.edu/irb/training/citi>. The Office of Responsible Research Practices also offers regular training for researchers. Additional information is available on the Web at <http://orpp.osu.edu/irb/training/>. In addition to

completing CITI training, everyone (faculty, staff, and students) involved in sponsored research or other research which is reviewed by the IRB must also complete a Conflict of Interest disclosure, which can be found at <http://orc.osu.edu/regulations-policies/coi/ecoi/>.

Some low-risk research may qualify for “exemption” from full IRB review; however, the determination that the research is exempt must be made by the university’s Office of Responsible Research practices (ORRP), and cannot be assumed by the student or investigator. Students who will be using data previously collected by faculty members for a theses, dissertation, or integrative learning project will also need to obtain IRB approval, frequently via the exempt status form. Requests for exempt determinations are made using the Buck-IRB [online system](#).

One aspect of student research which should be noted is that for purposes of the IRB application, the student’s advisor must be listed on the form as the “Principal Investigator,” i.e., the person responsible for the research. The student is a “co-investigator.” Both the student and the advisor must have completed the on-line human subjects training (CITI). The IRB will not review an application unless everyone listed as principal or co-investigator has completed the on-line training.

### **Research with animals**

All animal protocols should be submitted in via the university’s e-Protocol system. Directions to secure approval for research with animals are available through the Office of Responsible Research Practices. Approval requires completion of the Animal Usage Orientation Course (either classroom or online) and the Occupational Health and Safety Training Course (online only). Information regarding these courses is available online at <http://orrrp.osu.edu/iacuc/>.

### **Need assistance?**

You are encouraged to contact your faculty advisor or employer about research, including the requirements for responsible research practices. You may also speak with the Associate Dean for Research in the College of Public Health, if you have questions or concerns.

If you have additional questions or need to discuss specific issues concerning research you are undertaking, contact:

Office of Responsible Research Practices  
The Ohio State University  
300 Research Administration Building  
1960 Kenny Road Columbus, Ohio 43210-1063  
**Phone:** (614) 688-8457  
**Fax:** (614) 688-0366  
<http://orrrp.osu.edu/index.cfm>

[Template for Applied Practice Experience Report Title Page]

Applied Practice Experience Final Report

Student Name

Master of Public Health with a specialization in Clinical Translational Science  
Entering Class of 20xx

Title

Research Mentor: Name  
Department, Organization

Advisor: Name

Date Submitted

[Template for Integrative Learning Experience Project Title Page]

Title

Student Name  
Entering Class of 20xx

Integrative learning Project for  
Master of Public Health with a specialization in Clinical Translational Science

Committee Members:

Faculty Advisor's Name

Research Mentor's Name

Additional Graduate Faculty Member's Name

The Ohio State University College of Public Health

Submitted on Date