

## Clinical Research Major, M.S.

Clinical research is fast becoming more complex, sophisticated, and regulated. This has created a recognition and demand for formalized training for those who intend to apply their clinical skills to health research in human populations. The Clinical Research program at the University is at the forefront of this new academic discipline.

### Program Curriculum

The 38-credit program includes 25 credits in required courses, 3 elective credits, and 10 thesis credits. Elective credits may be taken from any academic unit within the University's Academic Health Center or from other related fields by permission of the adviser. The thesis requires an active role in a new or ongoing clinical research project, and from this work the student is required to submit a final written scientific report to the faculty committee and the Graduate School. In a final oral examination, the thesis project is presented and defended. The thesis committee consists of at least three graduate faculty members.

### Curriculum

- Fundamentals of Clinical Research (PubH 6301, 3 credits)
- Research Seminar (PubH 6303, 2 credits)
- Epidemiologic Methods I (PubH 6341, 3 credits)
- Epidemiologic Methods II (PubH 6342, 3 credits)
- Writing Research Grants (PubH 6348, 2 credits)
- Biostatistics I (PubH 6450, 4 credits)
- Biostatistics II (PubH 6451, 4 credits)
- Clinical Trials (PubH 7420, 3 credits)
- Ethics in Public Health: Research and Policy (PubH 6742, 1 credit)\*
- Elective Credits (3 credits)
- Thesis Credits: Master's (PubH 8777, 10 credits)

*\* Also required: both sessions of the University Responsible Conduct of Research course, validated by ORTTA; also, the NIH online training, Protection of Human Research Subjects, validated by the electronic certificate given at end of course.*

### Admission Preferences

Admission requires an advanced professional degree from an accredited college or university. Admissions committees in each major review applicants according to their personal statements, background and experience, record of academic achievement, demonstrated academic potential, letters of recommendation, compatibility of interests with program faculty, and other factors.

Test scores and GPAs provide competitive points of reference for admission but are not alone decisive in the admissions review.

This program is designed for individuals interested in a research career in academia, industry, research institutes, health agencies, or regulatory agencies. Applicants must have an advanced health professional degree such as M.D., D.O., D.D.S., D.V.M., Pharm.D., Ph.D. or any other advanced doctoral degree in a clinical

### Contact Information

#### Major Coordinators:

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biomedical field; or an advanced nursing degree (such as M.S. in Nursing).

In addition, applicants must have completed or be at an advanced state of their clinical practice training, and be affiliated with someone at the University of Minnesota who can provide advising and access to a clinical research project. The admissions committee will consider exceptions on an individual basis.

#### Preferred Performance Levels

- GPA of 3.10 (3.40 for quantitative courses)
- The GRE is not required.
- One of three required recommendation letters should be from the Clinical Director of training supporting the applicant's potential as a clinical researcher.
- Applicants from outside the University will need to identify key advisors and access to a clinical research thesis project.
- TOEFL score of 600 on the paper test or 250 on the computer-based

test or 90 on the internet based (iBT) test is strongly preferred of international students who have earned their degrees from non-native English speaking countries.

*There are three exceptions:*

- If the applicant has taken and success- fully passed the English examination portion of the ECFMG or USMLE exams, a TOEFL score is not required.
- University of Minnesota Medical Fellows or Medical Fellow Specialists who have taken at least 24 credits as part of their University fellowship; they will be exempt from providing an official TOEFL score if they provide a transcript of these credits.
- The MELAB is an alternative exam to the TOEFL.

### Application Deadline

- December 1
- Final: April 15

### Admission Decisions

Applications are notified about admission decisions by mail approximately six weeks after their completed application is received.

### Full Time Schedule (1.5 yrs)

*A typical schedule for the full time MS is shown below.*

#### Fall Semester

- PubH 6301: Fundamentals of Clinical Research (3 credits)
- PubH 6341: Epidemiologic Methods I (3 credits)
- PubH 6450: Biostatistics I (Lecture and one lab required; all 6 lab times work in class schedule but you may not get your 1st choice of lab time) (4 credits)

*Elective(s) (can be taken any term; total 3 cr required)*

#### Spring Semester

- PubH 6303: Clinical Research Project Seminar (2 credits)
- PubH 6342: Epidemiologic Methods II (PubH 6341, 6450 are prerequisites) (3 credits)
- PubH 6451: Biostatistics II (PubH 6450 is prerequisite) (4 credits)
- PubH 7420: Clinical Trials (PubH 6450 is prerequisite; PubH 6451 must be taken previously or concurrently) (3 credits)

### Summer Semester

- PubH 6742: Ethics in PubH: Research and Policy (can take other terms, in-class or online) (2 credits)
- PubH 8777: Thesis Credits: Master's (8 credits)

### Fall Semester II

- PubH 6348: Writing Research Grants (Luepker section) (2credits)
- PubH 8777: Thesis Credits: Master's (2 credits)

### Part-time Schedule (2 yrs)

*A typical schedule for the part time (2yr) MS is shown below.*

#### Fall Semester

- PubH 630: Fundamentals of Clinical Research (3 credits)
- PubH 6341: Epidemiologic Methods I (3 credits)
- PubH 6450: Biostatistics I (Lecture and one lab required; all 6 lab times work in class schedule but you may not get your 1st choice of lab time) (4 credits)

#### Spring Semester I

- PubH 6451: Biostatistics II (PubH 6450 is prerequisite) (4 credits)
- PubH 6342: Epidemiologic Methods II (PubH 6341, 6450 are prerequisites) (3 credits)

#### Summer Semester

- PubH 6742: Ethics in PubH: Research and Policy (can take other terms, in-class or online) (2 credits)

#### Fall Semester II

- PubH 6348: Writing Research Grants (Luepker section) (2credits)

*Elective(s) (can be taken any term; total 3 cr required)*

#### Spring Semester II

- PubH 6303: Clinical Research Project Seminar (2 credits)
- PubH 7420: Clinical Trials (PubH 6450 is prerequisite; PubH 6451 must be taken previously or concurrently) (3 credits)
- PubH 8777: Thesis Credits: Master's (8 credits)

#### Summer Semester II

- PubH 8777: Thesis Credits: Master's (2 credits)

### Part-time Schedule (3 years)

*A typical schedule for the part time (3yr) MS is shown below.*

### Fall Semester

- PubH 630: Fundamentals of Clinical Research (3 credits)
- PubH 6450: Biostatistics I (Lecture and one lab required; all 6 lab times work in class schedule but you may not get your 1st choice of lab time) (4 credits)

### Spring Semester I

- PubH 6451: Biostatistics II (PubH 6450 is prerequisite) (4 credits)

### Summer Semester I

- PubH 6742: Ethics in PubH: Research and Policy (can take other terms, in-class or online) (2 credits)

### Fall Semester II

- PubH 6341: Epidemiologic Methods I (3 credits)

*Elective(s) (can be taken any term; total 3 cr required)*

### Spring Semester II

- PubH 6342: Epidemiologic Methods II (PubH 6341, 6450 are prerequisites) (3 credits)
- PubH 7420: Clinical Trials (PubH 6450 is prerequisite; PubH 6451 must be taken previously or concurrently) (3 credits)

### Summer Semester II

- No class scheduled

### Fall Semester III

- PubH 6348: Writing Research Grants (Luepker section) (2credits)

### Spring Semester III

- PubH 6303: Clinical Research Project Seminar (2 credits)
- PubH 8777: Thesis Credits: Master's (10 credits)