This series of assignments is designed to provide hands-on experience in applying the multilevel life course perspective. Students will develop a conceptual framework that illustrates the multilevel life course determinants of a health outcome relevant to public health. The conceptual framework will be composed of a diagram and text (no more than 7 pages) describing the diagram. The relationships in the diagram must be supported by evidence from the scientific literature.

The process of creating the framework is broken into four assignments. Students will work on their frameworks throughout the term and will receive intermediate feedback from faculty and peers. The assignments are as follows:

- **Assignment 1**: Identify an appropriate outcome
- **Assignment 2**: Develop a draft of the conceptual framework diagram
- **Assignment 3**: Exchange comments on draft diagrams with classmates
- **Assignment 4**: Finalize the conceptual framework diagram and write descriptive text

The details of each assignment and their specific guidelines are described in the following pages. Due dates for each assignment are listed on the class schedule.

**Submitting Conceptual Framework Assignments**

Assignments 1, 2, and 4 must be submitted to the Drop Box on the CoursePlus site by their respective due dates/times. Students should not email assignments to the faculty or TAs. Each assignment should be submitted as a single document in pdf format. Students who are unsure about how to prepare a pdf for submission should ask a TA for assistance early in the term.

Handwritten frameworks will not be accepted, even if scanned into a pdf document. The draft diagram handed in must be drawn using computer software like Word or PowerPoint. Students who require assistance using such software should contact a TA early in the term.

Assignment 3 is the Conceptual Framework Workshop, in which students will meet in their regular discussion groups and provide peer review for each other’s’ frameworks. Students will bring hard copies of their draft diagram to the Workshop (diagram only, no references).

**Late Conceptual Framework Assignments**

The Drop Box will accept assignments after the due date; however, they will be flagged as late. Students who submit Assignments late will be penalized as described for each assignment below.
Assignment 1: Identify an Appropriate Outcome
(5% of Course Grade)

Students are required to turn in a short paragraph stating the health outcome for which they will develop a conceptual framework. The grading for this assignment is Pass/Low Pass/Fail.

- Students who submit the assignment on time and have their outcome approved as proposed will be graded Pass.
- Students who submit the assignment on time and are told either that it needs adjustment or that it is inappropriate for the assignment will be graded Pass when they submit an adjusted/new topic that is then approved. Students who do not submit an adjusted or new outcome will be graded Fail.
- Students who submit the assignment in the 48 hours after the deadline will earn a Low Pass (80%) if and when their topic is approved.
- Students who submit the assignment more than 48 hours after the deadline, or who do not submit the assignment will be graded Fail.

Because students will not receive credit for the assignment until their topic is approved, they should be sure to work with their assigned TAs to identify an adjusted/new outcome if their initial outcome is not approved. Students will receive feedback on their topics from their assigned TA by email; if their outcome is not approved, they should propose adjusted/new outcomes by response email. Proposals for adjusted/new topics must be received within 48 hours of the initial email from the TA. If a TA suggests an alternative outcome in the initial email, the student must still respond so that the students’ topic is known. Staff will not assume that the student has decided to do the suggested outcome.

Students may choose outcomes that are already of interest to them, or they may use the assignments to explore a new topic. However, the outcome must meet the following guidelines.

- **It must be a health outcome.** The life course perspective entails a broad view of “health,” so issues from school achievement to depression to prostate cancer are appropriate.
  - Assessing the effects of a program or policy is not appropriate for this assignment. The multilevel life course perspective is relevant for health outcome, but not for programs or policies. However, programs and policies attempt to manipulate the determinants of an outcome, so understanding determinants is central to designing programs and policy.
  - The relationship between a particular determinant and an outcome (e.g. sex education and likelihood of using contraception; early marriage and vaginal fistula) is not appropriate for this assignment. The purpose of the assignment is to reinforce the use of the multilevel life course perspective to integrate information about multiple determinants of an outcome, not focus on a particular determinant. The framework can, however, show where that determinant fits in the overall process producing the outcome across settings/populations.

- **It must be a public health problem.** To be a public health problem, an outcome must have high prevalence in the population. But high prevalence alone does not make an outcome a public health problem. To use an absurd example, dandruff is a highly prevalent problem, but one would be hard pressed to say that it is a public health problem. Thus to rise to the level of a public health problem, the issue must have an impact on population morbidity or mortality, not just impact in the lives of particular individuals. Finally, there must be a plausible intervention (actual or possible) at a population level. If all interventions to address an outcome are directed to individuals (e.g. psychotherapy, medication, surgery) then the outcome is not a public health problem. Of course, saying an outcome is not a public health problem does not mean it is unimportant. Many issues that are not appropriately
addressed by public health are highly relevant in clinical settings and/or have a significant impact on individuals and so should be addressed by other means.

- **It must be appropriate to frame in a multilevel life course perspective.** Many outcomes of interest in public health are usefully considered in a multilevel, life course framework, but some may not be amenable to this approach.
  - Multilevel means that there are biological, psychological, individual/behavioral, familial, community, and national factors that contribute to the outcome.
  - Life course means that the outcome can be conceptualized as a health trajectory; in other words, time must be relevant to how the outcome occurs. For example, there should be factors at each point in the life course (e.g., early childhood, adolescence) that predispose or protect individuals from the outcome. These factors may interact with time to influence the outcome, for example, an exposure may only influence an outcome if it occurs at a particular developmental stage or if it is prolonged.

- **It must refer to general, not specific, populations.** One of the uses of the multilevel life course perspective is to highlight the factors that differentiate outcomes across populations. For example, particular determinants may be more or less important across populations or the values of the determinants may differ (e.g., national health care system vs private payer system). A framework that describes an outcome in a specific population does not permit this comparison. Creating a multilevel life course conceptual framework for a specific population is possible and useful in certain situations. But the goal of this course is to understand the breadth of the perspective, so the framework developed for this assignment should apply to all, or at least most, settings and populations in which the outcome of interest in occurs.
  - If a student wants to develop a framework that applies to only one setting or population (e.g. the Netherlands, Tanzania, minority youth in the US, rural women in Peru) they must make a compelling argument that this setting or population is so different that the entire process leading to the outcome is different. Such situations are extremely rare.

**Assignment 2: Develop a Draft of the Conceptual Framework Diagram**  
(10% of Course Grade)

Students are required to turn in a draft of their conceptual framework diagram, accompanied by a list of the references that provide scientific evidence for the relationships shown in the diagram. The diagram must be annotated to indicate which references support each relationship.

Faculty will comment on students’ drafts. The draft will be graded on a standard letter scale (i.e., A: 90-100%, B: 80-89%, etc.). Students will be docked half a grade for each day late (a day late is defined as any time within the 24 hours after the assignment is due).

The conceptual framework developed for this assignment should integrate knowledge about the causes of a health outcome within the multilevel life course perspective. Students should adhere to the following guidelines as they develop their draft frameworks.

- **Begin by reviewing the scientific literature about the outcome.** The scientific evidence about the outcome’s determinants provides the building blocks for the framework.
  - For the purposes of this paper, the “scientific literature” includes papers from peer-reviewed research journals, reports from government statistical agencies (e.g., US National Center for Health Statistics), and summary publications from public or private agencies (e.g., US National Academy of Sciences, the Demographic and Health Surveys). The Welch Library web site provides access to PubMed and other bibliographic data bases and helpful tips for searching. Library staff also is
available to consult with students individually.

- The most recent literature reflects the current state of knowledge. Although review articles are inappropriate for most class papers, for this assignment a recently published review article is a helpful place to start. However, review papers must not be the only sources consulted.
- Students who select outcomes with extensive literatures will need to use judgment to decide if they have covered the literature adequately. Students who chose topics with smaller literatures may need to search more widely (e.g., using services besides PubMed) or may need to rely more on the theoretical or practice-based literatures.
- Whether a conceptual framework covers the literature adequately is a substantive judgment that does not directly translate into numbers of references. However, 10 references are too few and 100 references are too many (unless a student has already worked extensively on the topic). As a general guideline the framework should include all major multilevel factors leading to the outcome over the life course.

- **Organize the information gleaned from the review into the draft conceptual framework diagram.**
  - Although hand-written frameworks will not be accepted for any of the assignments, students often find that beginning with hand drawing is helpful. Hand drawn figures are flexible and easily changed; some students draw frameworks as they read the literature, incorporating new information as they read. In fact, framework diagrams can be a useful way of taking notes.
  - The draft diagram may be modeled on an existing framework or may be original. If an existing framework is used as a model, it must not be a framework depicting the same outcome, and the model framework must be cited on the reference list. An article presenting a framework for the same outcome may be cited as a reference, but the draft conceptual framework must be substantially different. A number of conceptual frameworks for health and non-health outcomes are posted in the Online Library. Most are not multilevel life course frameworks, but they may provide ideas about diagram organization.

- **The conceptual framework must represent a multilevel, life course perspective on the outcome; thus it must include factors at multiple levels that affect the outcome, and factors that affect the outcome at different points in the life course**
  - Thinking about the outcome in developmental terms — as the reflection of an underlying trajectory, may be helpful. This is easiest with chronic diseases that develop slowly over time and may be subclinical for long periods. But for outcomes that develop more quickly, considering the chain of circumstances or risks that eventually led to the outcome may be useful; that is, conceptualizing the process and pathways that lead to an outcome, not just sets of determinants.
  - Beginning by arraying factors on a grid, with “level” (biological, psychological, social, etc.) on one axis and time (life course stages as appropriate) on the other is a simple but surprisingly helpful way to begin the framework.
  - Considering the proximate causes of the outcome. Many of the factors in a framework will be “distal” in the sense that they are somewhat removed in time and space from the outcome. In contrast, “proximate” determinants are factors that are the immediate cause of the outcome. These often, but not always, reflect a physiological process. For example, the proximate causes of maternal mortality could be conceptualized as pregnancy, birth complications, and lack of skilled care (i.e., the “three delays”). The framework would then focus on the various factors over the life course that placed a woman in this situation (including circumstances such as her age and parity, which change her risks of complications, given pregnancy). Conceptualizing the proximate determinants of an outcome can prevent a framework from being just a list of risk factors.
• The factors and links in the framework must be supported by references to the scientific literature.
  • If the literature suggests a link but it has not been tested, the link can be included, referenced by sources that suggest the link, so long as the fact that it hasn’t been tested is made clear (e.g., by a lighter color). If a link is suggested by theory but has not been tested, the theoretical reference should be included (these can be links that emerge from students’ experiences working on an issue, but they must be supported and then support with theoretical reasoning).
  • The simplest way to include references in the diagram is to use a numbered format for the reference list and simply place the numbers in the appropriate places on the diagram. For example, if there is a link between childhood poverty and adult CVD in a framework and the link is supported by three references numbered 2, 7 and 11, “2, 7, 11” would be placed next to the line linking childhood SES and adult CVD in the framework.
  • Use a consistent reference format; several standard formats, for example the one used by the American Journal of Public Health and the International Journal of Epidemiology, are numbered.

• Students are urged to use the document Conceptual Framework Checklist, available in the Online Library, to help them as they construct their framework.

• This assignment is a draft of the framework. Students are expected to have made substantial progress on their conceptual frameworks and accompanying literature review. However, it is usual for students to have questions, be puzzled over pathways and linkages, and be thinking about various ways of representing their thoughts. Students’ final versions may be quite different.

Assignment 3: Exchange Comments on Draft Diagrams with Classmates
(5% of Course Grade)

A key test of a conceptual framework’s quality is whether it conveys the intended ideas to the reader and whether the ideas conveyed make sense to her or him. In the Conceptual Framework Workshop, students have the opportunity to test whether their framework conveys their ideas, and to receive feedback on it. Students will meet in their usual Discussion Groups, bringing hard copies of their draft frameworks (graphic only, no reference list). Participation in the workshop is graded Pass/Low Pass/Fail.

• Students who are present for at least 80% of the session and participate fully in the workshop will be graded Pass.

• Students who are present for less than 80% to the session and/or do not participate fully will be graded Low Pass.

• Students who do not attend the workshop will be graded Fail.

Students who must miss the Conceptual Framework Workshop due to a religious holiday, a job or school interview, required travel for a job, a family or personal emergency, or some other extreme and/or extenuating circumstance may instead prepare a written critique of another student’s Draft Conceptual Framework. TAs will assign the framework to be critiqued; the student may be in the online section of the course. The due date for the critique will be 72 hours after the student receives the framework to be critiqued. Except in cases of emergency, students must notify course staff in advance that they will be absent. Post-hoc approval will not be granted.

For the first part of the class, students will pair-up within the group. One member of the pair will explain his or her framework to his or her partner and the partner will provide constructive comments and critique; then the roles will reverse. In the second half of the workshop, students will present their critiques (still within their group) and other students will have the opportunity to comment.

Please note that the conceptual framework assignment is independent, not collaborative work. The role of
the partner (and group members) is to provide constructive comments, not to work with a student on their framework, and vice versa. Building on a suggestion made by a partner is fine – that’s what feedback is for and it’s an important part of the research and writing process. Staff will ensure that a student does not pair with a student working on the same subject, which would make independent work very difficult.

**Assignment 4: Completed Conceptual Framework with Accompanying Description**

(30% of Course Grade)

Students are required to turn in a final version of their conceptual framework diagrams accompanied by text description of not more than 7 pages. This version should not have reference numbers on the diagram; the references should be cited in the text. This is the way one would present a conceptual framework in a proposal or journal article.

Students need not use more than a paragraph to introduce the topic or the rationale for choosing it. The text should describe the process depicted in the diagram in words, elaborating and explaining as necessary. Examples of conceptual framework descriptions from articles in the scientific literature are posted in the Online Library.

The text may be any length but must not exceed 7 pages. Use 1” margins, a font no smaller than 12 point Times Roman and double space the text. The reference list and diagram are not included in this page count. As in the first draft, use a consistent reference format (the same is fine).

Like the draft, the final version will be graded on a standard letter scale (i.e., A: 90-100%, B: 80-89%, etc.). Students will be docked half a grade for each day late (a day late is defined as any time within the 24 hours after the assignment is due).