Advanced Methods and Designs Applied in Injury Epidemiology and Prevention

CLASS SESSIONS
Wednesday, May 24, 2017
Time: 1:30 - 5:30pm
Location: TBD
Directions can be found here: https://www.cuepissummer.org/contactpage

COURSE DESCRIPTION
This course will introduce students to contemporary analytic methods and innovative designs applied to injury epidemiology and the science of prevention. The course will be taught by accomplished researchers and experienced instructors, and will combine lectures with interactive discussions. Selected readings will ground students and build on the course material presented. Speakers will differ each year covering advanced analytic issues in injury research as well as advanced research designs for multifaceted approaches to injury prevention and reduction. The title, speakers and several objectives are updated each year to reflect the specific topics covered. These applied topics will include both unintentional and intentional injuries, such as motor vehicle crashes, falls, drug overdose, child abuse, youth violence, self-harm and assault.

The applied topics in injury research for 2017, include: 1) Complex Systems Approaches; 2) Application of the Decomposition Method; and 3) Implementation Theories, Frameworks and Designs.

PREREQUISITES
A master's degree in public health or related field and two years of working experience in public health/clinical setting are desirable. At the minimum, the student should have taken introductory courses in epidemiology and biostatistics.

COURSE READING LIST
Suggested text:

Online edition available at:
http://clio.cul.columbia.edu:7018/vwebv/holdingsInfo?bibId=9390836

Suggested from journals (invited speakers will select readings prior to the course:}
INSTRUCTORS (WILL CHANGE BY TOPIC EACH YEAR)

Melissa Tracy, PhD, MPH (MT)
Dr. Melissa Tracy is Assistant Professor of Epidemiology in the Department of Epidemiology and Biostatistics at the School of Public Health, University of Albany, State University of New York. She completed an MPH in Epidemiology at the University of Washington School of Public Health and her PhD in Epidemiologic Science from the University of Michigan School of Public Health. She also completed her postdoctoral fellowship in Epidemiology at the Columbia University Mailman School of Public Health. Her research focuses on the social determinants of violence, mental health and substance use. She is particularly interested in the transmission of violence and mental health problems within social networks. She has developed several agent-based models aimed at understanding the complex processes that generate exposure and adverse reactions to trauma and violence.

Guohua Li, MD, DrPH (GL)
Dr. Li is the M. Finster Professor of Epidemiology in Anesthesiology and Director of the Center for Injury Epidemiology and Prevention at Columbia University. Dr. Li graduated from Beijing Medical University and did doctoral and post-doctoral training in injury epidemiology and prevention at Johns Hopkins University. He served as professor and director of research at the Department of Emergency Medicine, Johns Hopkins University School of Medicine. He applies epidemiological designs and innovative methodology to study the role of human factors in transportation safety and has contributed to the understanding and control of injury risk during the process of aging. He is a coauthor of the Injury Fact Book and co-editor of Injury Research: Theories, Methods, and Approaches. Dr. Li is currently the principal investigator of the LongROAD (Longitudinal Research on Older Adult Drivers) project funded by the AAA Foundation for Traffic Safety. Dr. Li is credited for developing the decomposition equation linking injury mortality to case fatality, incidence density and exposure prevalence, for which he was awarded the Kenneth Rothman Epidemiology Prize in 1999. A recipient of the John Paul Stapp Award, he is a Guggenheim Fellow, Fellow of the American College of Epidemiology and Editor in Chief of Injury Epidemiology.

Thelma Mielenz, PT, PhD, MS, OCS (TM)
Dr. Thelma Mielenz is an Assistant Professor of Epidemiology in the Columbia University Mailman School of Public Health. She completed her doctoral training in epidemiology at the University of North Carolina Gillings School of Public Health and AHRQ NRSA pre- and postdoctoral fellowships at the Cecil G. Sheps Center for Health Services Research. As a behavioral consequential epidemiologist, her expertise is in implementation and dissemination science focused on self-management to prolong functional independence as we age. Dr. Mielenz has expertise in applied psychometrics for measures of physical disability and related constructs. Recently, Dr. Mielenz was the PI of a health systems project from PCORI and PI of a behavioral-change translational falls project. Currently, she is the co-PI of the NY site for the LongROAD study. She also directs the Education Core under the CDC-funded Center for Injury Epidemiology and Prevention at Columbia University. Dr. Mielenz also has a background as a board certified orthoepadic physical therapist with expertise in functional assessments.
## COURSE SCHEDULE

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<th>Time</th>
<th>Module</th>
<th>Learning Objectives</th>
<th>Readings</th>
<th>Notes</th>
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<tr>
<td>3:00 – 3:15pm</td>
<td>BREAK</td>
<td>ON YOUR OWN</td>
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<td>4:30 – 5:30pm TM</td>
<td>Implementation Theories, Frameworks and Designs</td>
<td>Students will:</td>
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• Describe current key theories, frameworks and designs utilized in implementation science with fall prevention examples

Readings: