Background
• There is an urgent need to educate the scientific community on high quality conduct and appraisal of systematic reviews (SRs).
• In 1994, a one-term graduate-level course titled “Systematic Reviews and Meta-Analysis” was introduced at Johns Hopkins Bloomberg School of Public Health, USA.
• We describe our experiences and challenges in teaching this course and invite the sharing of ideas.

Description of the Course
Teaching Team
• In 2012, there were 2 lecturers, 3 doctoral-level teaching assistants, and 5 informationists, each with SR experience.

Students
• We cap enrollment at 50, including masters and doctoral students in epidemiology, biostatistics, medicine, health policy and management, and other public health disciplines.
• Students work in multi-disciplinary groups of 4-6 each to complete an SR during the 8-week course.

Topics for Systematic Reviews
• SR topics are selected by students from a selected list of topics in clinical medicine/public health, fulfilling the following criteria:
  - Non-Cochrane SR published in the last 5 years (to ensure that no specific groups have an unfair advantage by having available Cochrane SRs on their topic);
  - SR of intervention effectiveness (randomized controlled trials) or etiology (observational studies);
  - SR included 10-15 studies; and
  - At least 2 published studies since publication of the SR.

Format of Class Sessions
• 2-hour sessions, 3 times a week for 8 weeks (total 48 hours).
• Sessions include a mix of:
  (I) lectures
  (II) demonstrations
  (III) hands-on exercises
  (IV) SR group work

Time Spent by Students

Reference Materials and Tools in 2012
• Textbooks:
  - Cochrane Handbook for Systematic Reviews of Interventions (Version 5.1.0)
  - Institute of Medicine: Finding What Works in Health Care: Standards for Systematic Reviews
• Other readings
• Roadmap for searching (developed by the teaching team)
• EndNote® for managing references
• RevMan® or STATA® for meta-analysis.

Course Evaluation
Students provide anonymous feedback and evaluation during the course and at its completion.

Challenges
• Short duration of the hands-on course, spanning just 8 weeks of a single academic term.
• Students find searching and screening studies disproportionately time-consuming.
• Finding topics with a SR but no Cochrane SR/protocol.
• Students work in groups, reducing opportunities for individual grading and attention.
• Students like to be evaluated on multiple aspects of performance (as compared to protocol and report only).
• Lack of a freely-available system for data extraction accessible by all students in a group.
• SR methods for observational studies are underdeveloped at worst and a moving target at best.

Conclusions
• This hands-on course provides students the opportunity to conduct an SR as part of a multi-disciplinary group, modeling the conduct of real-life SRs.
• Student feedback has been important to the continuing evolution of the course.
• Models for teaching methods for SRs should be discussed and made available to others.
• We invite suggestions, comments, and the sharing of ideas.