

PHS 598: Leadership Workshop (1 credit)

The Leadership Workshop is efficacious in the genesis and nurturing of Action Research projects.

Held on Friday mornings during second summer session
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All those enrolled in ASU summer courses leading to the MNS degree for high school physics teachers are asked to register for a one-unit course, Leadership Workshop. This course is intended to foster a community of practice—a forum for networking and collaborative research on issues of curricular and pedagogical interest.

MNS degree candidates are required to complete a minimum of 3 semester hours of Action Research. Action Research (AR) projects are intended to explore practical improvements in teaching practice. Teams of two or more teachers work together to design programs or materials for classroom implementation, which they must field-test and evaluate. This is followed by submission of a final written report and a public presentation to peers.

Leadership Workshop is an ideal spawning ground for AR proposals. Participants are enrolled in a mix of contemporary physics and integrated science courses, and all have completed at least one semester in Methods of Teaching Physics, a course which focuses on the Modeling technique, an inquiry-based approach to physics instruction. They come from diverse backgrounds—educationally, experientially and geographically—and their shared insights eventually converge on areas of common interest for further investigation, resulting in the genesis of AR projects.

In order to jump start the process, Leadership Workshop participants are invited to share their thoughts about the summer courses in which they are currently enrolled. This inevitably leads to prospects for adapting and deploying what they are learning with their own physics students. Other issues emerge, i.e., generating increased interest in physics among girls and minority students, providing extracurricular science-related opportunities for students, etc., leading to fruitful discussions and occasionally to AR partnerships.

Throughout the workshop, teachers have opportunities to share their successes, failures, concerns and ideas, and to take advantage of insights and experiences of their peers in considering and planning for change. Issues of common concern emerge in discussion and can prompt a change in focus for future workshop sessions. Fruitful collaboration is always at the heart of Leadership Workshop activities.

AR Teams (ARTs) form and flow for the first few weeks, and by the end of the workshop, those who are ready have a definite plan to follow during the coming school year. Others who are not as far along in the process become interested observers and in some cases may offer to help with the field testing of the materials that an ART develops. By the end of the workshop, *AR proposals are submitted to the instructor of record for PHS 593 for comment and approval, and teams obtain university faculty supervision for their project.* Please download the course description for PHS 593: Action Research, for further information.

The process of planning and executing collaborative research is a stimulating interaction that fosters personal and professional growth and builds lifelong friendships and associations. A successful research experience can serve as a springboard for new collaborations. ASU's MNS program makes a special effort to highlight the integration of physics into other disciplines, and to encourage the incorporation of contemporary physics topics into the traditional physics curriculum. This stimulus, together with the leadership skills that are an outgrowth of the action research process, provide for a vital, self-sustaining, teacher-centered professional development experience that promises solid research-based reform in science education. Leadership Workshop provides an important ongoing opportunity for teachers to mentor each other and profit from one another's efforts and experiences.