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### **Using the TA to Prepare Graduate Students for Research and Employment**

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One of the most underused components of the physics graduate program is the time spent being a teaching assistant (TA). Often the TA duties consist of grading and trying to help undergraduates survive a physics course. How those duties are accomplished is left to each TA. The most common TA preparation, if it exists, has a narrow focus on the class being taught. Preparation consists of describing, or perhaps practicing, specific teaching skills and gaining familiarity with the equipment used in the laboratory portion of the class. Instead TAs can be integrated into the entire course in which they function so that they learn the course as a system. This means treating a course in the same way one approaches a research project with the TAs as members of the research team headed by a faculty advisor. TA preparation is broadened and support includes the management, teamwork, and communication skills necessary. This makes the TAs more efficient and effective teachers while explicitly connecting the TA experience to the “soft” skills they need in their own research careers whether in industry, national laboratories, or academia. This talk describes such a program, functioning for over 20 years at the University of Minnesota, that takes no more time than the usual TA but results in graduate students that are more satisfied with their TA experience, are better prepared to function in research groups, and provide a better classroom experience for their undergraduate students.