A vital element of the NASA SMD Education Portfolio is a call for training opportunities for elementary and secondary school educators, to help them develop deeper content understanding and/or competence in teaching STEM disciplines with the end result of attracting and retaining more students in STEM disciplines. In response, a series of graduate-level, Internet-based, distance learning courses for teachers have been developed to address the professional development needs of middle and high school science and math teachers. These courses are appropriate for a large audience of teachers because the content presented is taught in an interdisciplinary manner in the context of astrobiology. Not only does this provide an opportunity for teachers to learn about cutting-edge scientific discoveries, but teachers also develop depth of understanding of science through the close examination of connections between interdisciplinary topics. Furthermore, the courses are designed to develop teacher’s pedagogical knowledge of how to integrate this content knowledge in the classroom.

The three courses that comprise this series are Astrobiology for Teachers, Advanced Astrobiology for Teachers I (AAT1), and Advanced Astrobiology for Teachers II (AAT2). The first course, Astrobiology for Teachers, has been offered through the National Teachers Enhancement Network and Montana State University with the support of the NASA Astrobiology Institute for over 5 years. AAT1 and AAT2 have recently been developed and will be field-tested in the summer and fall of 2007. Both AAT1 and AAT2 utilize the Voyages Through Time integrated science curriculum developed by the SETI Institute.

The purpose of these courses is to extend and secure a pipeline for teachers working toward highly qualified status under the No Child Left Behind legislation in the United States. They build off the pre-existing the Astrobiology Summer Science Experience for Teachers (ASSET) program offered by the SETI Institute. Alumni of ASSET will be recruited to assist in the teaching of the on-line astrobiology series as a way to further professionally develop their content and pedagogical understanding of successful teaching of integrated science. This represents only one of several efforts put forth by the
NASA Astrobiology Institute’s Education and Public Outreach Leads to create a continuous set of experiences designed to enrich the training of science teachers.