Technology in Thailand: A Case Study for Science, Technology and the World Course Dr. Harold R. Underwood Associate Professor of Engineering and Physics School of Mathematics, Engineering and Business Messiah College, Grantham, PA 17027 (717)796-1800 x7125 <u>HUnderw@messiah.edu</u> Innovative Teaching

## Abstract:

While the history of technology in the Western world has been well documented, technology in the East, such as in Thailand and other Asian countries, has developed along a different, less well-known pathway. Aspects of electrical technology in Thailand summarized here will serve as a case study in a course at Messiah College for nontechnical students, offering perspective from a culture different than their own. Traditional Thai people have long enjoyed a primarily agricultural way of life, but modern developments of electrical technology in the last two centuries have brought significant changes. Immigration, Thai openness & tolerance, foreign investment. inexpensive labor, and progressive political policies fueled changes, shifting population from rural to urban areas and increasing export manufacture, including electronics. Neither the first nor the last of its Asian neighbors to enter the competitive global market, Thailand's economy grew most rapidly for a decade, crashed in 1997, reemerged after *IMF* bailout, and continues now on a path of more sustainable growth in the 21<sup>st</sup> century. Broadcast communication, electrification and telecommunication further illustrate developments of Thai electrical technology over the past half-century. Television broadcast has served Thailand since 1955; now almost all urban homes have a set, and more than 90% of villagers view the same programs as their urban counterparts. Meanwhile, Thai radio listeners have decreased compared to TV viewers over the past 25 years, with mostly more educated Thais keeping radio as an alternative. From 1957 or 1958, Thai government-owned companies have produced electricity, using lignite, oil or natural gas as fuel. With 30% of its electricity now generated by hydropower plants, Thailand has made its electricity widely available to more than 90% of its villages. While telephone communication in Thailand has grown modestly, landline use has recently been eclipsed by the rocketing growth of mobile users. In 1993, the first Thai communications satellite offered services for radio distribution, telephone links, computer networks and TV broadcast; recently the Communications Authority of Thailand (CAT) has attempted to add high-speed internet access to satellite services. Learning how technology develops and influences a culture other than one's own puts it in global context and promotes better self-understanding, internationally and personally. At Messiah College, non-technical students take a course in the area of Science, Technology and the World (STW) as part of their general education requirement. Beyond increasing their technical literacy, the STW course intends to help students recognize how science and technology (S&T) relate to other parts of culture, preparing them to reflect critically on the nature and scope of S&T, and develop a personal perspective of their own. The case study in this innovative teaching approach, is

intended not only to facilitate stated course objectives, but to encourage students to study other cultures on their own, where they may plan to travel, or have already visited, to see what role technology has played. In so doing, they may find nuanced instances of the digital divide worldwide, and issues that may either realistically complicate or confirm global trends.