

# Demand for GIS Education

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Michael Phoenix is perhaps the most knowledgeable person concerning the teaching of GIS in Higher Education. Dr. Phoenix is Manager of University Relations at ESRI, and has been involved for nearly a decade in promoting GIS teaching at community colleges, trade schools, and colleges and universities. He shared with us the results of his most recent survey of the GIS Education market.

The number of professionals using GIS as a part of their job in the US is approaching 500,000 with an equal number in the rest of the world. Perhaps 10% of this number or 50,000 are doing GIS full time. These numbers are growing at about 15% a year. Given these figures, the job market demand for people with GIS coursework is about 75,000 per year, with most of these using GIS only as a part of their job. Most will only need one course in GIS. But there is a need for perhaps 7,500 graduates a year with 2 or more courses in GIS.



Presently perhaps 50,000 students at

American universities are getting at least one course in GIS each year. ESRI and its authorized training facilities provided training in software for over 22,000 students in the US last year and ESRI has had over 35,000 individuals enroll in a GIS course on our Virtual Campus (online GIS courses. This is helping meet the needs for the larger number of students who have with minimal education in GIS). But the demand for graduates with intensive education (certificate or advanced degree) in GIS is very large. The demand for this type of program is presently being addressed mostly by schools offering a Certificate in GIS. There are around 200 programs in the US that offer a certificate in GIS, turning out about 4,000 graduates a year. These programs typically require a student to complete 12 to 30 semester or quarter units. They tend to focus, very practically, on the management of a GIS system or the use of the software. Other students and professionals are taking masters degrees in geography, planning, landscape architecture, forestry, civil engineering, environmental science or other discipline in order to get advanced education in the use of GIS technology and science. But there is a great need for masters degrees in GIS.

It is estimated that the shortfall in producing individuals with the advanced level of GIS education in the US is around 3,000 to 4,000 in the US alone. The demand overseas is even greater due to the shortage of appropriate programs in many parts of the world. Worldwide about 3,100 (of which 1,400 are in the US) colleges and universities are involved in some way (either teaching or research) with GIS. This seems like a lot, but most are offering, at best, one course in GIS.