

Upstream of Upstream: Preparing Professionals for the Petroleum Industry

By

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The key challenge to maintaining a robust petroleum industry is ensuring an adequate supply of well-trained professionals now and in the future. To meet the challenge it is imperative for all stakeholders (academia, industry, and government) to realize that an educational/professional continuum exists: The upstream part of exploration and production is the university! Education of students in petroleum disciplines is more critical than ever, as the work force in the oil and gas industry is aging, and employee numbers are dwindling through attrition. There are not enough students in the “pipeline” to meet, what many companies are realizing, the opportunities being provided by rapidly developing technologies in the fields of petroleum geoscience and engineering. There is also a “productivity gap” of somewhere between 8 to 10 years, from the time a student takes up studies to the time he or she accumulates enough knowledge and experience to be a productive petroleum geoscientist or engineer. It is therefore crucial that universities provide well-trained and highly motivated bachelor’s, master’s and Ph.D. graduates to enter the oil industry. What’s more, these students must not only just join the work force, but must be able to “hit the ground running,” thus shortening the aforementioned gap. There is also growing demand for continuing education because technology in the field of petroleum is evolving so rapidly that most individuals working for companies are simply not able to keep abreast of the majority of new advances. Major companies used to cover their training needs with in-house expertise, and smaller companies would traditionally recruit individuals “properly” trained by the majors. Most oil and gas companies today can no longer afford the luxury of having these mentors in-house. Thus, practical, industry-focussed training must be an important function of universities to remain viable. Universities must address this need by providing courses and degrees that are relevant and taught by dynamic and enthusiastic scientists in touch with industry problems today. Unfortunately, as the need for increased training at university level increases, most departments are finding their funding from traditional sources diminishing markedly. As support for education from traditional sources decreases, companies must apply the same carefully thought-out strategic business decisions regarding their future human reserves as is done for their hydrocarbon reserves. Forward-looking companies are engaging, involving, and investing in the universities. A quid pro quo from universities must include changes to traditional formats of degrees, courses, research, and general ethos to meet industry needs!