

The Role of Distance Learning and Continuing Studies in Contemporary Aerospace Graduate Education

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Increasingly, members of the aerospace work force are turning to distance education as an alternative to the traditional path of graduate study. Today, the aerospace industry is especially prone to use this form of education because it is convenient and will not interfere with the jobs of key personnel. Aerospace jobs are dominated by security interests making it difficult to leave for a prolonged period of time in order to meet any form of residency requirement. There is also the loss of income that accompanies a leave of absence. Many senior level professionals cannot sustain this loss of salary to return to school so graduate education becomes a trade off against future earnings.

Distance education can offer a sound alternative and a variety of options for pursuit of Master's degrees. However, in order to provide a meaningful opportunity for adult learners to pursue a PhD, traditional residency requirements need to be relaxed. There are already some universities with well-respected traditional PhD programs (e.g., Columbia University and Michigan Tech.) that have altered their residency requirements to permit adult learners to earn their PhDs through distance means, even if it has been several years since they completed their Master's.

How have we arrived at this point and why are the compromises on residency requirements important? Technology is advancing at such a rate that it is impossible to predict where the future of distance education will take us. The graduate program, with which we are most familiar, is the one that has been developed and administered by the College of Engineering in partnership with the College of Continuing Studies at The University of Alabama. The distance learning Aerospace Engineering Master's Degree was formally established in 1994, just eighteen years ago. However, this approximates the time from the stone-age to the twenty-first century in terms of the progress of technology. The methods by which distance courses are administered and delivered has

kept pace with technology's advancement. Now, students can have access to a meaningful classroom wherever they live and whatever their career and family obligations may be. In fact, more content can be built into an on-line course than would be available through a traditional classroom experience. This provides the students motivated to master a subject with all of the tools necessary to accomplish that objective.

The decision was made in 1989 to pursue the development of a distance learning program in Aerospace Engineering at The University of Alabama and the program became a reality in 1994. Initially, there were many obstacles to overcome. There were faculty members who were concerned about the problems that were posed by a distance learning environment. Would there be two sets of standards—one for on-site students and another for distance students? How could examinations be administered fairly and securely? Who would own the content of videotaped lectures? These issues were all addressed and now the distance Master's Degree Program in Aerospace Engineering at the University of Alabama has become the staple of the entire graduate program in the department. It is possible for students to obtain Master's Degrees based on credit hours and a culminating experience for a Plan II degree, or to write a thesis under the direction of a faculty member and obtain a Plan I degree—the same degree that is earned by campus students. This is a versatile program which supports both its students and the department of Aerospace Engineering and which may someday offer these students the option to pursue their PhD in Aerospace.

I hope that the Aerospace Community will come away with this message: be aware of the technological changes that are taking place and respond to them. There is opportunity in all of this technological progress and we must be prepared to seize it and take the lead in what promises to be the future of higher education.

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