Curricular Maintenance: Responding to Partners and Higher Authorities

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Abstract

A 4-year accredited design technology program that places a special emphasis on engineering design graphics is currently in the process of wrapping up numerous curricular changes: the most it has experienced during any similar period in the history of the program. The changes were in response to edicts sourced from a variety of internal and external partners and authorities. Because the program has always been accredited by a Council for Higher Education Accreditation recognized accrediting body and the program has been in the process of completing an accreditation reaffirmation self-study and self-study report, it is anticipated the program's accreditation will be reaffirmed in 2019, which should also uphold its responses to the various edicts. It appears the edicts will have minimal impact on the delivery of instruction and graduation requirements. It also appears the program's special emphasis on engineering design graphics will not be affected. The accreditation reaffirmation process it is anticipated will bear this out.

Introduction

In addition to the evolving technologies and the way business and commerce are conducted, professional programs like almost all other instructional programs in higher education are influenced by academic partners and higher authorities. That is, in addition to being sourced from business and commerce, edicts that affect programs, and to which they must respond, can be sourced from associated programs within an institution, which may impact selected programs; institutional requirements that impact most if not all academic programs within an institution; from state authorities, which affect virtually all programs under the jurisdiction of the state; and from what some might suggest, accrediting bodies—programmatic, specialized, regional, etc.

Recently an accredited undergraduate design technology program, which places a special emphasis on engineering design graphics, completed several initiatives and is in the process of completing several others in response to requirements and guidance provided by its academic partners and higher authorities. At the same time, the program

was conducting an accreditation self- study and preparing their self-study report for accreditation reaffirmation.

The problem of this study was to reflect on what prompted the various initiatives. The purpose was to continue refining the skills needed to respond to programmatic partners and curricular authorities, to assess program effectiveness, and to not just carry on doing things as they have always been done—business as usual. The intent was to also develop an appreciation for the sources of edicts.

The University of North Carolina Undergraduate Degree Completion Improvement Plan. In a revision to the North Carolina Guaranteed Admission Program, (Current Operations and Capital Improvements Appropriations Act of 2015), the legislation challenged the President of the University of North Carolina, in consultation with the Board of Governors, to adopt a 2017-2018 academic year plan to improve student completion of baccalaureate degrees. Included were specific completion rate targets for each constituent institution and allowances for a variety of strategies designed to best meet the individual constituent institutions' needs (The University of North Carolina General Administration, 2016, December).

Generally, the edicts were in response to decrees that conveyed the needs of the system's general administration to ensure stakeholder sustainability with a focus on timely degree completion, student debt, rising costs for students and families, and the public perception about value. To many, the aforementioned legislation should have been and was a portent for more to come.

On Jan 26, 2018, as an example, the University of North Carolina Board of Governors approved a regulation mandating a maximum of 120 semester hours (SH) for undergraduate degrees (Y. Zhou, personal communication, March 2, 2018).

General Education. According to the institution's Foundations Curriculum and Instructional Effectiveness Committee chair, the College of Arts and Science and the professional programs have always shared a difference of opinion regarding the number of general education hours required of students fulfilling their undergraduate degree requirements (G. Bailey, personal communication, July 23, 2018). The institution, prior to the recent change, required 42 SH of general education courses. Southern Association of Colleges and Schools, their accrediting body, suggests 30 SH.

Degree in Three. Introduced during the 2008-09 academic year, "Degree in Three" provides high caliber, highly motivated students with the opportunity to finish an undergraduate degree in three years. While students can fulfill their the graduation

requirements over the course of six semesters and two to three summers without being over-taxed, Degree in Three is particularly suitable for students with AP (Advanced Placement) and dual-enrollment credits.

Design Minors. In addition, and in the spirit of UNC-GA's pursuit of their goal to reduce time to degree and costs, a decision was made in May of 2017 (R.A. Chin, personal communication, May 24, 2017) to reduce the number of SH needed to fulfill the architectural design technology and mechanical design technology minors from 30 SH to 24. Later and upon closer scrutiny of other professional program minor requirements, the 24 was further reduced to 18.

Trigonometry. Recently, the institution's Department of Mathematics elected to "bank" or in effect cease offering their trigonometry course (D. Bucci, personal communication, June 20, 2018), a prerequisite for two course required of BS in Design majors and those pursuing a design minor.

Association of Technology, Management, and Applied Engineering (ATMAE). As a Council for Higher Education Accreditation recognized accrediting body, ATMAE, with respect to its role as an accrediting body, exists to ensure that the higher education instruction provided by technology, management, and applied engineering programs meet acceptable levels of quality. As part of that oversight, ATMAE ensures that programs meet minimum foundation semester hour requirements. (ATMAE, 2018, p. 9)

Method

The design technology program responded to the edicts with two major initiatives. First, it reduced its foundation curriculum requirements from 42 to 40 SH—a 5% reduction. Then it pared its graduation requirements by 5% from 126 SH to 120. Currently it is in the process of (a) reducing their design minor requirements and (b) expediting the BS in Design as Degree in Three program.

General Education. In a directive from the College's associate dean for instruction (L.R. Pagliari in T. Mohammed, personal communication, May 25, 2016), program coordinators were instructed to begin paring down their foundation credits in accordance with the guidance provided (see Table 1). Within six months, the BS in Design's updated general education requirements were approved (East Carolina University: Undergraduate Curriculum Committee, 2016. P. 2).

Table 1. Comparison of Current and Proposed Foundations Curriculum Requirements.

Areas	Current FC Semester Hours	Proposed FC Semester Hours
General Education (SACS):		
Humanities/Fine Arts	10 (at least one HU/one FA)	9 (at least one HU/one FA)
Social Science	12 (three different areas)	9 (two different areas)
Natural Science	8 (at least one lab)	7 (at least one lab)
Mathematics	3	3
Any of the above	-	3
Sub-Total	33	31
Additional ECU FC:		
English Composition	6	6
Wellness Literacy	3 (Health/Kinesiology)	3
Total ECU FC	42	40

Note. Adapted from East Carolina University: Foundations Curriculum and Instructional Effectiveness Committee. (2015, October 19). *COMMITTEE: Foundations Curriculum and Instructional Effectiveness.* Retrieved from http://www.ecu.edu/cs-acad/fsonline/customcf/committee/as/minutes/2015/fcm1015.pdf

Reduction in Graduation Requirements. In the spirit of UNC-GA's pursuit of their goal to reduce time to degree and to minimize costs, a decision was made in Nov of 2015 to reduce the graduation requirements for the BS in Design from 126 SH to 120, even though a directive from UNC-GA was not forthcoming and probably would not be (L.R. Pagliari, personal communication, February 1, 2016).

Sixteen months later, the BS in Design's request to reduce their graduation requirements from 126 SH to 120 was approved (East Carolina University: Undergraduate Curriculum Committee, 2017. p. 2). In the case of the mechanical technology concentration, this was accomplished by eliminating one of three science courses. For the architectural technology concentration, a core science course was retained and the students were given a choice of one among two science courses. The number of general elective hours was also reduced.

Degree in Three. In the spirit of reducing time to degree and cost, the "Degree in Three" BS in Design, which is nothing more than a plan for fulfilling the BS in Design graduation requirements in six consecutive semesters with two summer sessions sandwiched between, or some combination thereof, is being resuscitated. Key will be jettisoning but not eliminating selected prerequisites. The prerequisite courses were originally incorporated to help facilitate instruction and to keep students from waiting until later to take their science and math courses as examples.

Minors. The jettisoning of selected prerequisites should also helped facilitate the pace with which the requirements for the two design minors can be fulfilled by students. Minor prerequisite courses are identified as part of the minor and must ethically be cited as part of the minor requirements.

Trigonometry. The recent Mathematics Department announcement to no longer offer trigonometry will need to be addressed because the course is an integral part of the BS in Design.

Accreditation Reaffirmation. During the period in which the edicts began coming down, the program began its process of completing an accreditation reaffirmation self-study and self-study report, so the program needed to ensure it remained in compliance with their accrediting body's standards. In addition, it had to negotiate the changes between the accreditation standards under which the program's accreditation was last reaffirmed by ATMAE (2011) and the standards under which accreditation would be reaffirmed in 2019 (The Association of Technology, Management, and Applied Engineering, 2018).

Results

General Education. The BS in Design's was able to pare its general education requirements with very little difficulty—see Table 1. The one hour reduction in Humanities/Fine Arts makes planning easier for students because most courses offered are 3 SH courses and so very few are 1 SH courses. The three hour reduction in Social Science simply eliminated, for this program, a Social Science elective. And because the BS in Design requires additional science hours beyond what is required to fulfill the institutional general education requirements, the additional science hours could be used to fulfill the "Any of the above" requirement.

Reduction in Graduation Requirements. In addition to reducing the BS in Design graduation requirements from 126 SH to 120, the program had to ensure it remained in compliance with their accrediting body's foundation semester hour requirements. The requirements, which were in place when the program's accreditation was last reaffirmed, were as follows: General Education (must include oral and written communications), 18-36; Mathematics, 6-18; Physical Sciences, 6-18; Management, 12-24; Technical, 24-36; and Electives; 0-18, and appear in Table 2.

Table 2. BS in Design Graduation Requirements, 2012-2013 Catalogue.

ATMAE Requirements	Program Semester Hours
General Education (Humanities, English, History, Sociology, Psychology, Speech, etc.) 18-36 Semester Hours	31
Mathematics 6-18 Semester Hours	11
Physical Sciences* 6-18 Semester Hours *Life Sciences may be appropriate for selected programs of study	13
Management 12-24 Semester Hours	24
Technical 24-36 Semester Hours	39
General Electives 0–18 Semester Hours	8
ATMAE Minimum Total 120 Semester Hours	126

Note. Adapted from The Association of Technology, Management, and Applied Engineering. (2011). *2011 Accreditation Handbook*. Ann Arbor, Michigan: The Association of Technology, Management, and Applied Engineering.

For the 2019 accreditation self-study report, the foundation semester hour requirements are as follows: General Education (must include oral and written communications), 18-36; Mathematics, 6-18; Physical Sciences, 6-18; Management and/or Technical 42-60; and Electives; 0-18, and appear in Table 3. What may appear to be disconnects is a result of how courses are categorized. While the number of general education hours in Table 3 does not coincide with the general education hours in Table 1, it must remembered that some of the mathematics and physical sciences hours broken out by ATMAE are in fact general education hours. Also, the 3 hour difference between the Management and Technical hours in Table 2 and the Management and/or Technical hours in Table 3 was the result of a technical course being added following the last accreditation visit.

Degree in Three. While the plan has not been finalized, it appears to be workable. Fortunately it does not require an institutional hearing outside the department that administers the program.

Minors. While the original proposal for reducing the number of hours needed to fulfill the requirements for each of the design minors has made its way through most of the approval process and is awaiting its hearing, it will be withdrawn so editorials can be made and resubmitted for consideration.

Table 3. BS in Design Graduation Requirements, 2018-2019 Catalogue.

ATMAE Requirements	Program Semester Hours
General Education (Humanities, English, History, Sociology, Psychology, Speech, etc.) 18-36 Semester Hours	30
Mathematics 6-18 Semester Hours	11
Physical Sciences* 6-18 Semester Hours *Life Sciences may be appropriate for selected programs of study	8
Management and/or Technical 42-60 Semester Hours	66
General Electives 0–18 Semester Hours	5
ATMAE Minimum Total 120 Semester Hours	120

Note. Adapted from The Association of Technology, Management, and Applied Engineering (2018), *2019 Accreditation Handbook*. Retrieved from https://cdn.ymaws.com/www.atmae.org/resource/resmgr/accred_2018/ 2019_Accreditation_Handbook.pdf

Discussion

The North Carolina General Assembly drafts and legislates its state laws. The State's first Constitution contains the legal authority and mandate for the University of North Carolina, a multi- campus public university system. Comprised of all North Carolina's public universities, it is administered by a president and a board of governors.

As a caretaker of the state's resources, the BS in Design continues to abide by edicts sourced from associated programs within its institution; institutional requirements; state authorities, including the Board of Governors; and accrediting bodies. In response, it has and continues to pursue initiatives associated with but not limited to timely degree completion, student debt, rising costs for students and families, and public perception about value.

Now that the two major initiatives have been finalized and the guidance deployed, its effect and impact will need to be assessed. Once the two revised design minor semester hour requirements and the BS in Design Degree in Three are deployed, their effect and impact too will need to be assessed.

References

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