Proposed Topic in FOUNDATIONS – **Applied Arts, Technology & Design**

Rationale:

The foundations of a general education should reflect the social, economic, and technological conditions of our time, including the crucial role of engineering and technology in meeting humanity's most pressing challenges. The Morrill Act act codified this role in the establishment of land-grant universities. A modern general education for informed global citizens needs to broaden to include applied arts, technology and design. These disciplines and skills enrich students' intellectual development with unique ways of thinking through modeling, visualizing, and iterative design studies, all of which modern global citizens cannot afford to neglect. In this context, the term "applied arts" refers to the application of artistic design to utilitarian objects for everyday use. The word "technology" has its origins in the Greek ***tekhnologia*** 'systematic treatment', from ***tekhnē*** 'art, craft' + ***-logia*** 'study of, subject matter.' These broad definitions imply the value of study in these areas across many disciplines, through experiential and iterative learning and practice. As Carol T. Christ, Victorian literature scholar and the Chancellor of the University of California Berkeley writes, "just as the modern languages and the natural sciences came to be regarded as liberal arts over the course of the 19th century, engineering and computer science must become part of a liberal education in the 21st century. We must determine not only how best to educate engineers in the traditional liberal arts but what role engineering might play in the education of musicians, economists, political scientists, and philosophers." Disciplines in Engineering, Business and Agriculture are examples of the embodiment of applied arts.

Elevating applied arts, design, and technology as topics that all students experience more completely prepares graduates for the problem solving demands of their professions and *would be an explicit articulation of our shared values in teaching students to create and do.* Our investment in the Digital Flagship initiative not only places technological power in the hands of students to transform their learning but also gives them an opportunity to control the impact of technology on their lives. The value of active, hands-on learning as a deeper, more impactful method of teaching is indisputable; experiential education has been identified by the American Association of Colleges and Universities (AAC&U) as a high-imapct educational practice. Capturing this element of "doing" in an Ohio State general education is more inclusive of a broad array of disciplines (e.g dance, design, engineering, business, biology, chemistry, agriculture) and reflects a missing aspect of learning in the currently proposed GE model. Significantly, this is something many different disciplines already offer in existing general education or major courses (e.g. Dance 2702 – Creative Technologies for Dance).

In addition to the inherent value of students learning this subject matter, an Applied Arts, Technology, and Design requirement in the Foundations would bring better balance to the topical distribution of the Foundations[1] and therefore open up the ability to also have better balance to the topical distribution in the Themes for many disciplines.

Proposed FOUNDATIONS Topic: Applied Arts, Technology & Design (3 hours)

Students will develop skills in the use and application of technology, broadly defined, as a tool of discovery, problem solving and creativity.

Students will demonstrate an understanding of the use, manipulation, and development of technology in creative, scientific, and iterative design, technology or engineered systems. Courses would provide hands-

on use and application of tools, scientific apparatus, computer coding or engineering or design fundamentals in an iterative process of investigation and resolution.

Expected Learning Outcomes:

Upon completing this topic students will be able to:

- Design, create, and test simple artifacts (e.g., prototypes, products, computer programs) to solve given problems or form the basis of an application or new technology.
- Use or manipulate technology in the process of creative output towards an aesthetic, scientific, or utilitarian end.

The proposed foundations structure is reflected in Figure 1 below.

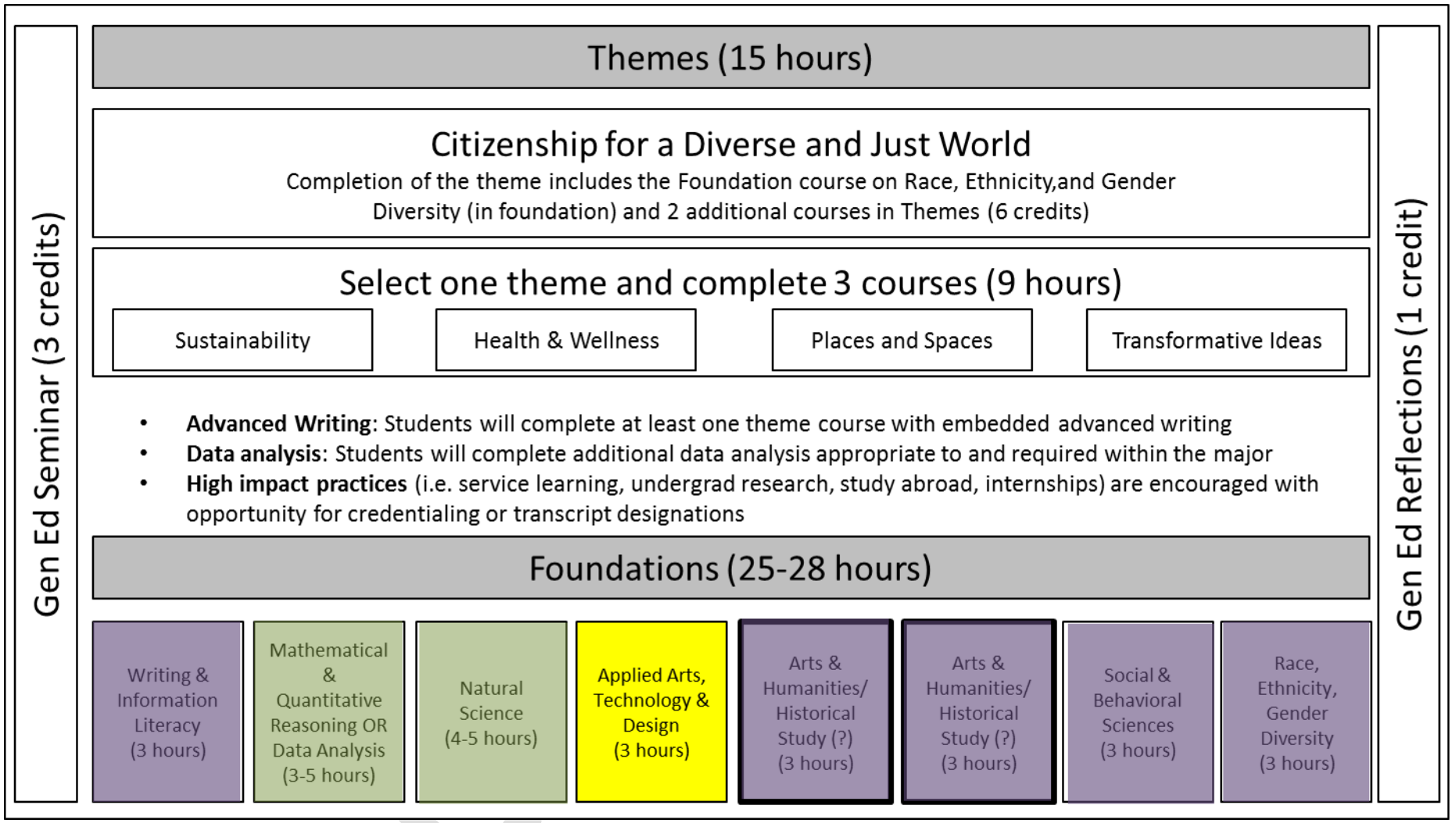

Figure 1. Proposed revision to Foundations adding a topic in Applied Arts, Technology & Design. Arts, History and Humanities reduces from three courses to two in this proposal with the intention that the third course be taken instead within the themes or gen ed seminar. "Arts & Humanities/ Historical Study (?)" is a placeholder name for others to weigh in on.

Implementation Opportunities

The addition of the Applied Arts, Technology and Design foundation course reduces the foundation categories in Arts, History and Humanities from three courses to two. Our view is that rather than resulting in a loss of a course, the change would create an opportunity to develop higher level courses within the themes or general education seminar, and reduce the number of lower level liberal arts or humanities credit hours ”lost” through AP credit or College Credit Plus enrollment. The new topic would still be subject to completion by AP/CCP but through the Computer Science A, Computer Science Principles or Studio Arts courses rather than another humanities course.

There is the expectation that many departments across the university will be able to apply courses they are already teaching to this foundation category and perhaps double count it in the major. Use, development and manipulation of technology is ubiquitous in our teaching at the university. This topic is intended to capture that and explicitly articulate the value we have placed on it through our actions. Further, the Digital Flagship iniative provides an opportunity to deliver this topic for those programs/departments that do not already have such a course. Here again, the university investment in the Digital Flagship is a statement of values, and this topic allows us to integrate it cleanly into the academic sphere.

Under the current general education structure for engineering students, 24 credit hours are double counted with the major (Math, Data Analysis, Science, Open Option) and 3 of the the 24 credit hours of Liberal Arts and Humanities (Writing, Literature, Arts, Historical Study, Social Science, Culture & Ideas) are restricted to satisfy a college-imposed ethics requirement. With only 24 credit hours of “non-STEM” courses available in these programs, adoption of this proposal would create more flexibility by moving an additional non-STEM course option up into the Themes. We believe that science degree programs will similarly benefit.

[1] One of the unwritten but verbally stated concerns in the General Education Review was that dual enrollment policies from the State of Ohio have and will continue to erode the number of general education credit hours that students take at the university. Some students are enrolling as freshman with credit for a high percentage of general education courses. This partially motivates the Themes in the model which allow for higher level courses in the general education curriculum that presumably would need to be taken at Ohio State.

Another concern was compliance with the Ohio Transfer Module (OTM) and the Foundations structure is largely modeled after the OTM. However, current Foundations does NOT mirror the OTM exactly in that it has more Arts & Humanities and less Science & Math than the OTM. Further, the OTM itself is undergoing a statewide review.