Contact: Diana Gonzalez

REQUEST FOR A NEW PROGRAM AT IOWA STATE UNIVERSITY: MASTER OF INDUSTRIAL DESIGN PROGRAM

Action Requested: Consider approval of the request by Iowa State University to establish a new Master of Industrial Design Program which will be administered by the Department of Art and Design in the College of Design.

Executive Summary: The proposed program is designed to provide students with the design skills and problem-solving methods necessary to create useful, sustainable, and socially and culturally relevant products and interactions. This proposal was reviewed by the Board Office and the Council of Provosts and is recommended for approval. No concerns were raised when it was presented to the Iowa Coordinating Council for Post-High School Education. The proposed program addresses the Board of Regents Strategic Plan priority to provide "educational excellence and impact."

Background:

◆ Description of Industrial Design. Industrial design is the creation and development of concepts and specifications that optimize the function, value, and appearance of products and systems for the mutual benefit of both user and manufacturer. The industrial designer's unique contribution places emphasis on those aspects of the product or system that relate most directly to human characteristics, needs, and interests. This contribution requires specialized understanding of visual, tactile, safety, and convenience criteria, with concern for the user. Industrial design links knowledge about technology and the visual arts with knowledge about people.[1]

◆ Proposed program learning outcomes. Learning outcomes will be assessed by studio-based and lecture-based metrics for interaction and product design, creation, and development, as codified by the National Association of Schools of Art and Design, the accrediting body in industrial design education. Some of the learning outcomes include the following:

   ⇨ Understanding of how products work; how products can be made to work better for people; what makes a product useful, usable, and desirable; how products are manufactured; and how ideas can be presented using state-of-the-art tools.

   ⇨ In-depth knowledge of social and cultural issues affecting interactions and product user needs and decisions.

   ⇨ Ability to develop new products and interactions for specific and broadly-based societal needs.

   ⇨ Knowledge to bring products and interactions to reality through interdisciplinary collaboration.

   ⇨ Understanding of the history of industrial design and its relation to human factors and user interfaces.

   ⇨ Functional knowledge of basic business and professional practice.

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[1] Source: Industrial Designers Society of America.

    ⇨   Working knowledge of computer-aided drafting (CAD), computer-aided Industrial Design (CAID), and appropriate two-dimensional and three-dimensional graphic software.

    ⇨   Ability to investigate and synthesize the needs of marketing, sales, engineering, manufacturing, servicing, ecological and biorenewable responsibility, and reconcile those needs with those of the user in terms of satisfaction, value, aesthetics, and safety.

    ⇨   Define problems, variables, and requirements; conceptualize and evaluate alternatives; and test and refine solutions through studio-based individual and team learning projects and experiences.

    ⇨   Ability to communicate concepts and requirements to others by drawing upon verbal and written forms, two-dimensional and three-dimensional media, and levels of detailing ranging from sketch or abstract to fully detailed and specific.

◆   <u>Relationship to existing programs</u>. Within the College of Design, the proposed program will offer opportunities for collaboration with architecture, graphic design, interior design, landscape architecture, and integrated studio arts. The proposed program will also have the potential to bring together numerous resources, such as the Biorenewables Laboratory for the Bioeconomy Institute, engineering, psychology, marketing, and business, with the discipline of the design process. The proposed program will offer the option of interaction with the graduate program in Graphic Design, with its emphasis on the idea of usability and effective visual communication through in-depth study of signs, symbols, systems, and interaction of humans with systems and devices. The graduate program in Interior Design will be focused on human factors and the study of humanics; the opportunity for study across the disciplines and mutually enhanced research topics and pursuits will also be available.

◆   <u>Duplication</u>. The proposed program is not offered at any other institution of higher education in Iowa. Students choosing to pursue this field must leave the state to do so. Available programs in the Midwest are at the University of Illinois at Urbana-Champaign, University of Illinois at Chicago Circle, University of Wisconsin-Stout, Southern Illinois University, and University of Kansas. There is no program in Industrial Design in Minnesota, Missouri, North Dakota, South Dakota, Nebraska, and Arkansas.

◆   <u>Student demand</u>. The proposed program is expected to appeal to prospective students of the College of Design, including students who do not currently matriculate into one of the existing degree programs. Regional students from Minnesota, Missouri, South Dakota, North Dakota, and Nebraska, states without industrial design programs, are likely sources of students. The proposed program may be a popular extension for undergraduate majors in the College of Design.

◆   <u>Projected enrollment</u>. The projected enrollment is seven students in Year 1, increasing to 20 students by Year 7. The College also anticipates enrollment of approximately 10 non-majors per year.

◆   <u>Unique features</u>. The College of Design is one of only six design schools in the United States which offers the disciplines of architecture, community and regional planning, landscape architecture, interior design, graphic design, and art, all of which are available for interdisciplinary study. The addition of the proposed program would increase the college's opportunities for research, outreach, professional practice, teaching, and learning. The Board of Regents approved the creation of a new Bachelor of Industrial Design Program at Iowa State University in August 2010 (Agenda Item 6l).

◈   <u>Need for proposed program</u>. The U.S. Department of Labor, Bureau of Labor Statistics, states that the demand for industrial designers outweighs the current supply and is expected to increase due to companies continuing to emphasize the quality and safety of their products. Two of the fastest growing industries for this career path are transportation and medicine. Many employers prefer to hire candidates with experience specifically in industrial design and a bachelor's degree is becoming a minimum prerequisite to a career in industrial design.

Increased demand for industrial designers will stem from four factors – (1) people will continue to want safe, good-quality products; (2) consumers will demand new products that are easy and comfortable to use; (3) companies will continue to develop high technology products in medicine, transportation, and other fields; and (4) global competition among businesses will continue to grow. Additional job openings will result from the need to replace designers who leave the field.

Business and industry realize the important contribution of design to business success and industrial innovation. Since 2006, "Business Week" has published an annual issue that focuses on the contribution of the processes and products of industrial design to successful and innovative business. "Fast Company" publishes an annual issue on design and has a regular monthly design feature.

◈   <u>Resources</u>. The College of Design will need to hire one new tenured faculty member as the director of the proposed program to initiate and lead the degree program and engage in industrial design research. After the second year, as the proposed program grows, the need for a second faculty member will be necessary. The teaching labs needed for the proposed program include one studio for the graduate students. The College of Design anticipates housing these studios in the existing square footage if the Armory can be used. The College has a new configuration proposed for the existing model shop and expanded digitally driven machines.

◈   <u>Cost</u>. The proposed program will require an infusion of more rapid prototyping equipment and computer-driven equipment. An initial expenditure of $500,000 over a three-year period is estimated for the necessary equipment. The projected cost for Year 1 is $280,000 and $100,000 by Year 7. The proposed sources of funding are college reallocation, tuition revenue, and university allocations. This includes a financial commitment by the Vice Provost for Research and the Provost's Office to assist in the creation of the "Flex-Lab" for use by this program and others in the College of Design. The average projected tuition revenue by Year 7 is $137,281.

◈   <u>Accreditation</u>. The accrediting agency for the proposed program is the National Association of Schools of Art and Design (NASAD). The Department of Art and Design has a visit scheduled for Fall 2011 at which time the proposed program would be reviewed for "plan approval" because there will not be three years of graduates at that time.

◆   <u>Link to institutional strategic plan</u>. The proposed program will integrate science, technology, social psychology, and design which is congruent with ISU's Strategic Plan mission to provide a venue for collaboration within the academic community by fostering cross-disciplinary cooperation and outside of the university through collaboration with corporate entities in the state and beyond. One of the College's goals is to increase its presence outside of the university by cooperation with the business community to create partnerships that will facilitate additional research possibilities for students and faculty. Interaction with industry professionals can also be achieved through strategic collaboration with a number of outreach entities, such as the Center for Industrial Research and Service (CIRAS), Pappajohn Center for Entrepreneurship, and ISU Extension.

◆   <u>Anticipated implementation date</u>. If the proposed program is approved by the Board of Regents, the University anticipates that the program will be implemented in Fall 2011.