MARYLAND HIGHER EDUCATION COMMMISSION
ACADEMIC PROGRAM PROPOSAL

PROPOSAL FOR:

__X__ NEW INSTRUCTIONAL PROGRAM

_____ SUBSTANTIAL EXPANSION/MAJOR MODIFICATION

_____ COOPERATIVE DEGREE PROGRAM

_____ WITHIN EXISTING RESOURCES or ____ REQUIRING NEW RESOURCES

Marylnd Institute College of Art
Institution Submitting Proposal

July, 2017
Projected Implementation Date

Bachelor of Fine Arts
Award to be Offered

Product Design
Title of Proposed Program

1009.00 - Applied Design
Suggested HEGIS Code

50.0404 - Industrial and Product Design
Suggested CIP Code

Interactive Arts
Department of Proposed Program

[To Be Determined]
Name of Department Head

David Bogen, Provost	**dbogen@mica.edu**	**410-225-2289**
Contact Name	Contact E-Mail Address	Contact Phone Number

_____ Samuel Hoi, President
Signature and Date

May 24, 2016 Date Endorsed/Approved by Governing Board

MARYLAND INSTITUTE COLLEGE OF ART

PROPOSAL

BACHELOR OF FINE ARTS IN PRODUCT DESIGN

A. Centrality to institutional mission statement and planning priorities:

1. Program Description

The proposed BFA in Product Design at MICA is a full-time undergraduate program targeted to aspiring designers seeking in-depth education in conceptual development, design, and production of industrial and consumer products. Building on MICA's world-renowned art and design programs, Product Design will be informed by, and grow out of, an intimate understanding of craft processes, materials, and tools, and will emphasize principles of social and environmental sustainability, including human and non-human systems and communities. Students will learn to design for multiple scales of production, and across various sectors. The program prepares students for competitive employment opportunities across commercial, medical, educational, and non-profit organizations throughout the mid-Atlantic region. The curriculum will encompass a full range of concepts, skills, and methodologies, from 3D design fundamentals to advanced electives tailored to specific career goals. Emphasis will be placed upon contemporary design thinking; interdisciplinary and collaborative modes of research and production; a deep understanding of materials; blending of physical and digital systems; and business skills and entrepreneurial culture. Existing industries, new manufacturing processes, and emerging environmental, economic and social paradigms require new ways of thinking and making and MICA will prepare students for this rapidly expanding field.

The proposed Bachelor of Fine Arts in Product Design is a response to the growing scope of product design and the increased importance of the relationship between product and consumer. Product designers and industrial designers are artists, entrepreneurs, and engineers, who combine aesthetic qualities with usability to create innovative products. This program prepares students who are interested in a design career or those hoping to pursue graduate studies in product design or other similar fields. Throughout their studies, students will gain an in-depth knowledge of the design process-from brainstorming to prototyping to materials and manufacturing. As they develop their own portfolio pieces in studio, students are able to apply theory to real life design challenges. Undergraduate studies culminate with a thesis to be completed during senior year. As students consider the subject of their final project, they will draw from required classes focusing on human interactions with products as well as the business and marketing of these products.

The BFA in Product Design has been accredited by the Commission on Accreditation of the National Association of Schools of Art and Design (November 2016). NASAD, founded in 1944, is an organization of schools, colleges, and universities. It has approximately 240 accredited institutional members. It establishes national standards for undergraduate and graduate degrees and other credentials.

2. Alignment with Institutional Goals

The Maryland Institute College of Art is dedicated to promoting the arts, creativity, and innovation as forces for advancing culture, the economy, and society. Building on MICA's distinguished art and design programs, Product Design will employ a highly collaborative cross-disciplinary structure. The program will join Architectural Design, Interactive Arts, and Game Design in MICA's new 25,000sq. ft. Dolphin Design Center. The Center will include state-of-the-art labs, classrooms and offices, as well as shared collaborative learning and social spaces to provide a hub for exploring the social, material, and economic dimensions of contemporary design and fabrication. Product Design courses will welcome students from these and other majors, such as Graphic Design, Fiber, and Ceramics, and will send students to those areas, as appropriate, for interdisciplinary exploration. Bringing these programs together into a state-of-the-art design facility will create a community through which to share knowledge, curriculum, and resources. The comprehensive nature of product design will create opportunities for collaboration with the full spectrum of MICA programs, from Interdisciplinary Sculpture to Social Design, from Graphic Design to Illustration. The program will work to support the integration of entrepreneurial intelligence with social good, both of which are cornerstones of MICA's vision for the future.

MICA's deep-rooted commitment to excellence in art and design education is founded in the belief that creativity and innovation are vital to society and the world. This belief, along with the college's global perspective and strong links to Baltimore, has been instrumental in shaping MICA's educational mission and curricular evolution over the years. The new Product Design program will advance MICA's mission in the following ways:

- It will create a forward-thinking, holistic, and expansive product design education that considers behaviors, processes, materials, services, and systems, in the conceptualization and making of new products.
- It will establish an ethical and philosophical framework to engage design's cultural, economic, and social impact.
- It will propose new modes of teaching, learning, and engaging with art and design in response to the pressing social and economic challenges of our time.
- It will bring to MICA a new area of research that will rely on modes of integration for art and design coming from the rich exchanges between local and global contexts.
- It will propose a renewed commitment to cultural and social advancement in the context of Baltimore's creative economy.
- It will generate new opportunities for collaboration with local health and tech companies.
- It will expand the school's collaborative capacity both internally and with outside partners.
- It will attract a diverse cohort of regional, national and international students in search of a dynamic education in product design that advances entrepreneurship, equity, social justice, and sustainable development.
- It will fill a void in MICA's current undergraduate academic offerings, supporting the college's goal of consolidating its position as a world-class leader in art and design education.

This program supports the central goal of MICA's 20/20 Strategic Plan: adapting visual art and design education to the sweeping changes of the 21st century in order to maintain the school's position of leadership in the world. The new BFA in Product Design will expand the school's curricular spectrum toward a progressive agenda that places an emphasis on environmental stewardship, social and ethical responsibility, entrepreneurship, and technological advancement.

B. Adequacy of curriculum design and delivery to related learning outcomes:

1. Program Requirements

The BFA in Product Design is based on 120 semester credit hours. Courses will be distributed across "Core Design" (13 courses, 42 Units); "Supportive Courses in Art and Design" (12 courses, 36 units); "General Studies" (9 courses, 27 units); and "Art & Design History" (5 courses, 15 units). Students complete a series of foundational requirements in the freshman year which provide an introduction to the fundamentals of design.

2. Learning Outcomes and Educational Objectives

The key strategic goal of this new professional degree in Product Design is to educate a new generation of designers who create user-centered objects to think and act differently towards the advancement of human dignity, social health, equitable economic progress, and environmental sustainability. Students attending this program will be trained in best practices in a number of advanced design areas such as material research, digital fabrication, product innovation, markets, design thinking, and collaborative problem-solving. These areas of competency, as well as others in the new curriculum, define the main goals of the program.

The structure and organization of the new program provides in-depth, forward-thinking, education that will prepare students for professional practice, social engagement through design, entrepreneurial development, or the pursuit of additional academic/research goals upon graduation. Learning outcomes will include:

Research / Action

- Understand the role of research in product design: its methods and limitations, and techniques.
- Engage, and learn to work with, researchers from other fields.
- Acquire operational knowledge of user-centered and group-centered research methodologies in design.

Ethics / Values

- Understand the principles of ecological sustainability and their application in the design of products.
- Understand the ethical dimension of design in relation to all the actors involved in the process of bringing products from idea to market.
- Develop a sense of empathy and human understanding of the user and the user's needs.

Communication / Participation

- Use and mix technical, verbal, and visual languages to express complex design intentions.
- Command one to one, one to few, one to many, and one to audience verbal, written and visual communication.
- Communicate with subject experts from non-design disciplines as well as design specialists.

Skills / Meta-Skills

- Develop a broad range of conceptual, operational and executive design skills.
- Turn specific manual and digital skills into meta-skills (skills applied to specific contexts).
- Maintain an "always ready to learn" approach to design skills and skill-building.

Local / Global

- Identify strategies to connect local and global contexts.
- Discern how to operate ethically locally and globally.
- Integrate local and global priorities in the development of new products.

Digital / Non-Digital

- Understand non-digital making processes including hand, tools, and the safe use of machines and shop equipment.
- Understand digital making processes including software, hardware and digital output equipment.
- Integrate both understandings and customize such integration to the needs of the project.

Business / Entrepreneurial

- Understand the business dimension of product design.
- Integrate design into entrepreneurial and business ventures.
- Determine the business needs associated with a specific design process and/or product.

Strategic / Collaborative

- Demonstrate the ability to work collaboratively with designers and non-designers.
- Define the terms of collaboration as part of disciplinary or interdisciplinary teams.
- Demonstrate the ability to develop strategic insights that inform all the stages of the design process.

Materials / Processes

- Command the properties and applications of traditional and advanced materials.
- Understand material transformation processes from one-off to mass-production.
- Understand the ecologically appropriate use of raw and reused materials.

3. Program Outline – Courses and Distribution

Appendix 1 –Complete list of courses and descriptions
Appendix 2 –Student Curricular Plan

Course Distribution	Core Design	Supportive Courses in Art and Design	General Studies	Art & Design History	Total
Credits	42	36	27	15	120
Percentage*	35%	30%	22.5%	12.5%	100%

** Based on 120 Semester Hours of Credit*
For ease of identification, each one of the curricular groups has been assigned a color that is kept consistent throughout this document.

CORE DESIGN: 14 COURSES, 42 UNITS, 35% OF THE PROGRAM

Number	Course	Semester	Units	Type
*PRO 200	Design Studio. Fundamentals	Sophomore | FA	3	Studio
PRO 201	Material Ecologies	Sophomore | FA	3	Studio
PRO 210	Design Studio. Materials and Processes	Sophomore | SP	3	Studio
PRO 211	Human Factors and Ergonomics	Sophomore | SP	3	Studio
PRO 212	Design Ethics and Sustainability	Sophomore | SP	3	Studio
PRO 300	Design Lab I	Junior | FA	3	Lab
PRO 301	User-Centered Design Workshop	Junior | FA	3	Workshop
PRO 310	Design Lab II	Junior | SP	3	Lab
PRO 311	Entrepreneurship Workshop	Junior | SP	3	Workshop
PRO 400	Design Lab III	Senior | FA	3	Lab
PRO 401	Social Innovation Workshop	Senior | FA	3	Workshop
PRO 410	Thesis Seminar: Megatrends	Senior | FA	3	Research Seminar
PRO 411	Thesis Studio	Senior | SP	3	Thesis Studio
	Studio Elective: Design Practices	Senior | SP	3	Seminar
TOTAL CREDIT UNITS – CORE DESIGN			**42**	

* Course codes are preliminary pending program approval.

SUPPORTIVE COURSES IN ART AND DESIGN: 12 COURSES, 36 UNITS, 30% OF THE PROGRAM

Number	Course	Semester	Units	Type
FF 100	Elements of Visual Thinking I	Foundation | FA	3	Studio
FF 198	Drawing I	Foundation | FA	3	Studio
FF 210	Electronic Media and Culture	Foundation | FA	3	Studio
FF 101	Sculptural Forms	Foundation | FA	3	Studio
FF 102	Elements of Visual Thinking II	Foundation | SP	3	Studio
FF 199	Drawing II	Foundation | SP	3	Studio
FF 150	Painting 1	Foundation | SP	3	Studio
	Studio Elective	Foundation | SP	3	Studio
	Studio Elective	Sophomore | FA	3	Studio
PRO 302	Communication Platforms in Design	Junior | FA	3	Seminar
	Studio Elective	Junior | SP	3	Studio
	Studio Elective	Senior | SP	3	Studio
TOTAL CREDIT UNITS - SUPPORTIVE COURSES IN ART AND DESIGN			**36**	

GENERAL STUDIES: 9 COURSES, 27 UNITS, 25% OF THE PROGRAM

Number	Course	Semester	Units	Type
LA 101	Critical Inquiry	Foundation | SP	3	Seminar
	Intellectual History I (Distribution Requirement)	Sophomore | FA	3	Seminar
	Intellectual History II (Distribution Requirement)	Sophomore | SP	3	Seminar
	HS Elective	Junior | FA	3	Seminar
	HS Elective (Literature Requirement)	Junior | SP	3	Seminar
	HS Elective	Junior | SP	3	Seminar
	Systems and Systems Theory	Senior | FA	3	Seminar
	HS Elective	Senior | SP	3	Seminar
	HS Elective	Senior | SP	3	Seminar
TOTAL CREDIT UNITS - GENERAL STUDIES			**27**	

ART & DESIGN HISTORY: 5 COURSES, 15 UNITS, 12.5% OF THE PROGRAM

Number	Course	Units
AH 100	Art Matters	3
AH 201	Modernism and After	3
	Design History	3
	Art History Electives (2)	6
TOTAL CREDIT UNITS - ART & DESIGN HISTORY		**15**

C. Critical and compelling regional or Statewide need as identified in the State Plan:

1. Demand and Need for Program that supports Economic Development in the region and State

The BFA in Product Design addresses the State's perceived need for postsecondary education that enhances the quality and effectiveness of the school's offerings, provides service to and advances diversity in the field, and contributes to workforce development and economic growth in Maryland, as addressed in the Maryland Ready 2013-17 Maryland State Plan.

There is a need for students trained in Product Design and according to the Industrial Designers Society of America (IDSA) no academic institution in the State of Maryland offers an accredited program in product design or industrial design at present. MICA's commitment to filling this void will impact the larger community of Baltimore and the state of Maryland in multiple ways. Because of its manufacturing tradition, social vitality, and well-established higher education centers, Baltimore is the ideal hub for a diverse economy in which the product designer may become a direct contributor to the local economy rather than a mere translator of client needs. From small-production, high-design products with a social tag; to advanced products that support the health care research conducted at Johns Hopkins University or the University of Maryland; to the professional opportunities that local companies such as Under Armor or Stanley Black & Decker may offer, Baltimore is ripe to become a design hub that breeds and supports the new kind of product designer who will graduate from this program. The Baltimore community will also be well served by this new program in multiple ways:

- MICA's new Product Design ecosystem will transform the local creative economy in Baltimore by generating new opportunities based on disruptive innovation.
- It will contribute to the retention of creative talent in Baltimore, to be reinvested locally. Additionally, since MICA's creative talent has a significant international component, it will help make Baltimore more international and diverse.
- It will generate new opportunities to work with local universities and institutions to facilitate stronger collaborations between academia and local government to address Baltimore's most pressing problems in new, innovative ways.

2. Alignment with Maryland State Plan for Postsecondary Education

The BFA in Product Design supports Maryland's goal to enhance its array of post-secondary education offerings and to ensure excellence and high quality programs. MICA has an established track record of high-caliber undergraduate education in design and is recognized both nationally and internationally. MICA strives to meet goals of excellence in the delivery of its programs and has the systems and structures in place to support the achievement of these goals. The cultural relevance of the new Product Design program will be in its ability to foster research in design leading to pragmatic action and lasting innovation. MICA has an extraordinary opportunity for leadership by customizing its curricular and pedagogical structures to the needs, values, and

possibilities of our time. Product Design will propose new ways of understanding, designing, and making high value products with a cultural significance for generations to come.

Through the new program, MICA will form new local and global partnerships to help realize the college's goal of elevating Baltimore to a place of prominence in product design innovation. As part of its goal in becoming a cornerstone of design culture in Baltimore and the mid-Atlantic region, MICA intends to explore and develop three initiatives over the next few years:

- A MICA-sponsored **Design Network.** It will be an advisory group of key representatives from companies, institutions, non-profit organizations, and government, with the mandate to bring real world thinking that will help steer the mission and reach of the new program over the years. Initially, the network will have a local flavor, although it will slowly grow into an international group as the program consolidates. In addition to its advisory role, the group will facilitate opportunities for sponsored studios, a key curricular component of the new program.
- A **Products Accelerator**. It will be a physical space where business, engineering, and design expertise converge to form new venues and enterprises. MICA students and faculty will benefit from this initiative, which will attract faculty and students from other schools, local companies and VC firms, engineers, etc.
- An **International Design Biennial.** It will be a multi-partner agreement to organize an annual or bi-annual international design week with top local and global leaders, thinkers, designers, and makers. Propelled by cooperative agreements with key public, private, and social partners, this event will grow as the new program grows, and will place Baltimore and MICA at the pinnacle of international design.

D. Quantifiable & reliable evidence and documentation of market supply & demand in the region and State:

Marketing Report – Tuscany Associates – July 2015[1]

In the spring of 2015, the Maryland Institute College of Art (MICA) engaged Tuscany Associates to conduct demand discovery research for a Bachelor of Fine Arts in product design. The primary objectives of this engagement were to: Gauge market demand for an additional product design program, assess the market opportunity for MICA's future graduates, crystalize which curriculum elements might be most advantageous to graduates, and identify ways in which to differentiate the program from competitive offerings. The approach included a landscape analysis of the product design market, a review of competitive offerings, and an assessment of the employment prospects for graduates of its proposed BFA in Product Design. Tuscany Associates also conducted interviews with 31 members of the product design community, from senior level design directors to entry-level designers.

From the Tuscany Report: "Our research indicates that the product design field is rapidly growing, with new opportunities for designers to work as independent entrepreneurs, as members of corporate design teams, or in design consultancies. As demand for product designers is increasing, the supply of product design students into the job market is also growing at a similar rate. Despite this growth in the supply, employers have indicated that they are underwhelmed by the quality of job applicants. When asked about the launch of a new product design program, employers are both excited and cautious."

The caution from employers concerns the quality of the students graduating from some institutions offering Product Design degrees. MICA has a well-deserved reputation for creating high quality design programs with market forces in mind. The Product Design degree will differentiate itself from existing programs through industry partnerships which will provide internship opportunities and industry based teaching faculty; academic partnerships which provide collaboration and flexibility for students, and a required student Capstone/Thesis project with a focus on solo and group projects and industry-sponsored opportunities.

According to the Bureau of Labor Statistics, as of 2013, there were more than 40,000 industrial designers in the United States, 30%, or approximately 12,000, of which are self-employed. From 2010 to 2020, the overall employment of industrial designers is projected to grow by 10.5%. However, it is important to note that the latest projection data from 2010 may not accurately reflect recent changes in the product design job market. The BLS

[1] "MICA BFA in Product Design: Market Assessment," *Tuscany Associates* (July 2, 2015).
Tuscany Associates is a strategy consulting firm serving clients in four primary practice areas: Education, Healthcare, Service Businesses, and Information & Media.

predicts a 29% increase in the number of professional services jobs for industrial designers, with specialized design firms and architecture and engineering services firms expected to add between 800 and 1,000 industrial design jobs. In 2013, industrial designers earned a median salary of $59,610 per year, however salary varies across states and industry. Through interviews with industry leaders, Tuscany Associates found that:

> "...most employers agree that a bachelor's degree is sufficient for a student to acquire the necessary skills for an entry-level industrial design position. Nearly all employers stated that they would be willing to hire students from a newly established program. When evaluating portfolios, employers are not only looking for a beautifully rendered final product. Rather, they are considering a designers ability to tell a story and show thought process and problem solving methods underlying the final design."

Product (Industrial) Designers are primarily concentrated in Manufacturing and Professional Services (specialized design firms, engineering and architectural firms, and management, scientific, and technical consulting firms). Graduates of industrial design programs have three distinct career paths: design consultancy, working within a manufacturing or consumer goods company, or freelancing. Designers can also choose a more "traditional" product design career crafting physical objects or a "non-traditional" type of career by applying the design thinking skills to a wider set of challenges. The chair of the Product Design Program will be instrumental in guiding the future focus for this new program. There has been a profound shift in this field in the importance of design, and MICA, with its strong emphasis on design, is well suited to educate students for this field and the perceived strategic value of design.

E. Reasonableness of program duplication:

We are not aware of any Product Design programs in our geographic region.

F. Relevance to Historically Black Institutions (HBIS):

MICA's BFA in Product Design will have no impact on the implementation or maintenance of high demand programs at Historically Black Institutions (HBIs).

G. If proposing a distance education program, please provide evidence of the Principles of Good Practice:

Not Applicable. The BFA in Product Design is not a distance education program.

H. Adequacy of faculty resources:

Chair - MICA is currently searching for the inaugural chair of the new Product Design program. It is expected that the new chair of the anticipated Product Design program will join MICA in the spring or summer of 2017 and will work towards implementing the curriculum for the new program. Reporting to and working with the Associate Dean of Design and Media, the Chair will have responsibility for the strategic, programmatic, financial, fundraising, and management operations that support the mission and vision of the Product Design program and its role within MICA. Beyond the hire of a program chair, MICA's plans are to open another faculty search, when enrollments warrant, for an additional full-time faculty member to start in 2018 or 2019.

There are also a number of current MICA faculty from adjacent departments and working in related fields who will contribute to the curriculum of the program.

These include:

Name	Hired	Rank and Department	Areas of Expertise and Research	Involvement in the program
Timmy Aziz	2007	Faculty, Architectural Design	Built Environment, Construction	Studios, Labs, and Workshops
Jason Corace	2009	Faculty, Interactive Arts	Game Design and Theory	Seminars, Thesis
Annet Couwenberg	1989	Faculty, Fiber	Wearable Technology, Soft Goods	Studios, Workshops, Studio Electives
David East	2007	Chair, Ceramics	Ceramic Design, Materials	Material Research, Workshops
Frank Fantauzzi	2013	Chair, Architectural Design	Design Process, Problem-Solving	Studios, Workshops, Fabrication
Jenna Frye	2008	Faculty, Foundations	Game Design, 3D Additive Output	Studios, Digital Fab., Advising
Ryan Hoover	2014	Faculty, Sculpture	Digital Fabrication	Digital Fabrication, Materials, Bio-Fabrication
Brockett Horne	2007	Chair, Graphic Design Undergraduate	Typography, User Experience, Interfaces	Labs, Workshops, Thesis
Ellen Lupton	1997	Chair, Graphic Design Graduate Program	Typography and Book Design	Thesis, Concentrations, Advising
Ben Luzzatto	2005	Faculty, Sculpture	Design	Studios, Workshops
Katie O'Meara	1990	Faculty, Architectural Design	Urban Design, Planning, Research	Seminars, Workshops, Thesis
James Rouvelle	2004	Chair, Interactive Arts	Physical Computing, Robotics	Studios, Workshops, Thesis, Digital Fabrication
Esther Sheppard	2000	Faculty, Graphic Design	Toy Design, Medical Devices	Research, Studios, Seminars
Mike Weikert	2011	Director, Center for Social Design	Social Design	Workshops, Thesis

In addition to the full time faculty in the chart above, MICA has worked with several part time faculty members who have successful careers in product design in the Baltimore area. Currently, these faculty include:

- Inna Alesina, Product Designer, with expertise in Environmental Design and User Experience Design.
- Michal Rotberg, Architect, with expertise in Architectural Design and the built environment.

I. Adequacy of library resources:

MICA is home to one of the country's best art and design libraries. With over 110,000 volumes, 130,000 e-books, nearly 18,000 bound and unbound periodicals, over 300 current serial subscriptions, over 40,000 digital images, and over 6,000 DVD titles the library exceeds the standards set by NASAD (National Association of Schools of Art and Design). The Decker Library is located in the Bunting Center.

Decker Library serves as the campus library for MICA and supports its educational mission. The main focus of the library collection is in visual art and design, while maintaining a broad, balanced collection in the humanities. The Library spends fifty to sixty percent of the book budget acquiring monographs on the visual arts and the remainder on building a strong general collection. Approximately 3,500 volume titles are added to the collection each year. The library also subscribes to ARTstor, Films on Demand, and Alexander Street Press Art and Architecture in Video. Training and instruction is provided for members of the MICA community using our image resources. The digital image collection is available to MICA students, faculty and staff via the library catalog. A screening room is available to MICA community members. The screening room contains a Blu-Ray player (DVD compatible), flat screen TV, and moveable chairs and tables. Film and video materials on reserve can be viewed here.

Decker Library has thirteen full time staff members, 1 part-time circulation assistant and one academic year media coordinator, as well as 5 professional librarians, to assist students, staff and faculty members.

Library staff members participate in meetings and conferences representing MICA in various organizations including the Art Libraries Society of North America, ARLIS/DC- MD-VA, the Association of Independent Colleges of Art and Design, Baltimore Art Research Online Consortium, Congress of Academic Library Directors, Baltimore Academic Libraries Consortium, Maryland Independent College and University Association, and various other organizations.

Area libraries

MICA's location in Baltimore also provides students with three additional outstanding art library collections found within one and a half miles. The Milton S. Eisenhower Library at Johns Hopkins University is open to all students and faculty. The Baltimore Museum of Art and The Walters Art Gallery have libraries that can be used on appointment by MICA students. The main library of the Enoch Pratt Free Library, which serves as the state library for Maryland, is within walking distance of the College. Students are eligible to apply for a card that can be used at any Enoch Pratt branch. The Library also provides access to a broader collection through memberships in the Baltimore Academic Libraries Consortium, which permits direct reciprocal borrowing among most four-year colleges in the Baltimore metropolitan area.

Materials Library

The Materials Library is a multidisciplinary resource for material research, exploration, and experimentation consisting of an ever changing and expanding collection of material samples. All material samples are assigned a unique identification number and organized by material type.

J. Adequacy of physical facilities, infrastructure and instructional equipment:

The new Dolphin Building, to be completed by fall 2017, will house the new Product Design program, Architectural Design, and Interactive Arts / Game Design. The new Center will offer small exhibition space, and a 1500 square foot fabrication studio. The fabrication facility will be designed with Product Design and Architectural Design materials and workflows intended as the primary processes and output. The new building will also be open to all MICA students for any curricular purposes aligned with the appropriate use of the equipment. The budget for the new building also includes the addition of a full-time Fabrication Manager and one additional full time Fabrication Specialist.

Product design relies heavily on different modalities of making and material experimentation. The new program requires adequate fabrication facilities to support its academic mission and ensure pedagogical excellence, and for this purpose, it will benefit from MICA's existing fabrication spaces in addition to those in the new Dolphin lab. This combination of design-specific and general facilities will give Product Design students access to equipment and tools that will expand significantly their abilities to work with different materials. By the same token, students from across the college will now have access to a new fabrication space built expressly for small to medium scale 3D design production.

Additionally, Product Design students will find in these peripheral facilities the opportunity to interact with MICA's larger student population, and increase the opportunities for cross-pollination and multi-disciplinary collaboration. These additional facilities on campus include:

- Digital Fabrication Studio
- Full-Size Wood Shops
- Full Sculpture Shop (Flexible Space)
- Full Metal Shop and Foundry
- Fiber and Textiles Shops
- Ceramics Shop

The new, 5-story building, which will house the Product Design program, will have an open-plan, an ideal layout for fabrication facilities. The plan for the new building's fabrication facility includes:

- New fabrication spaces with open floor plans offering clear sightlines to facilitate monitoring activity and safety in the shop. These spaces are designed to accommodate classes of up to sixteen students, and will have flexibility to accommodate future growth and adaptation of new equipment.
- The new facilities will include the most current safety features regarding restricted access and control of materials.
- The new facilities are designed for large flows of raw material and projects, the occasional moving of heavy equipment, recycling, reusing, and trash collection
- The new facilities are equipped with air quality and dust collection systems. They will be fully connected wirelessly and will have video projection and sound system capabilities.
- They will be equipped with durable furniture on casters, abundant storage cabinets, tool storage stations, wall-mounted dry-erase boards, large sheet vertical storage, and shelves for storage of students' work in progress.
- They will have utility sinks, and a full built-in, well-lit and mechanically-ventilated spray-paint booth with compressed air connection.

Existing campus facilities include the following equipment:

- Stationary Woodworking Equipment: table saws, scroll saws, panel saws, etc.
- Digital Fabrication Equipment: full-table CNC router, laser cutters, 3D-printers, UV-cured resin material printers, and 3D-scanners with rotational arm.
- Portable Power and Non-Power Hand Tools: drills, sanders, circular saws, routers, jig-saws, etc.
- Hand Tools: a wide variety for use with different materials and in model-making.
- Additional Fabrication Equipment: vacuum bag press system, vertical mill drill, CNC 3 Axis vertical milling machine, injection molding machine, and CNC water jet.
- Foam and Plastic Fabrication Equipment: hot-wire cutter, vacuform machine, plastic welder, and ultrasonic welder.
- Fiber Equipment: sewing machines, sergers, ironing board and iron, digital embroidery machine, floor loom, knitting machines, and assorted related tools.
- Plaster Work Area / Mold Making, with all the necessary elements.
- Full Metal Shop including foundry.

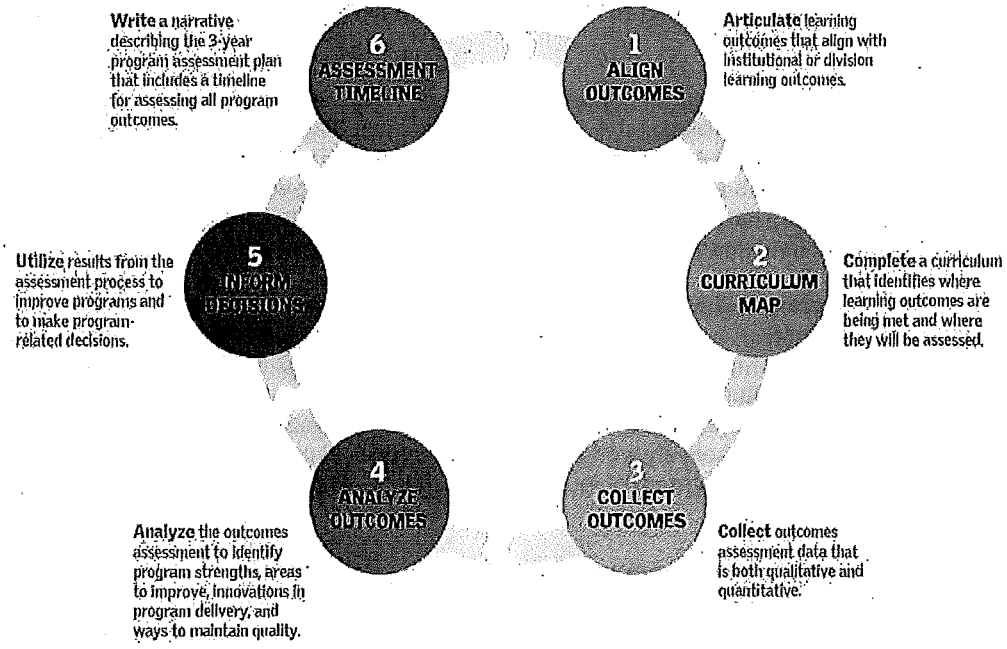
K. Adequacy of financial resources with documentation:

TABLE 1: RESOURCES:					
Resource Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Reallocated Funds	0	0	0	0	0
2. Tuition/Fee Revenue (c + g below)	905,840	1,875,080	3,056,571	3,665,768	4,053,894
a. Number of F/T Students	20	40	63	73	78
b. Annual Tuition/Fee Rate	45,292	46,877	48,517	50,216	51,973
c. Total F/T Revenue (a x b)	905,840	1,875,080	3,056,571	3,665,768	4,053,894
d. Number of P/T Students	-	-	-	-	-
e. Credit Hour Rate	-	-	-	-	-
f. Annual Credit Hour Rate	-	-	-	-	-
g. Total P/T Revenue (d x e x f)	0	0	0	0	0
3. Grants, Contracts & Other External Sources	0	0	0	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1 – 4)	905,840	1,875,080	3,056,571	3,665,768	4,053,894

TABLE 2: EXPENDITURES:					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	107,840	211,523	229,911	241,471	242,087
a. # FTE	1.33	2.66	3.17	3.33	3.33
b. Total Salary	86,000	168,840	185,497	195,446	198,260
c. Total Benefits	21,840	42,683	43,964	45,283	46,641
2. Admin. Staff (b + c below)	12,902	13,096	13,292	13,491	13,694
a. # FTE	.3	.3	.3	.3	.3
b. Total Salary	10,080	10,231	10,384	10,540	10,699
c. Total Benefits	2,822	2,865	2,908	2,951	2,996
3. Support Staff (b + c below)					
a. # FTE					
b. Total Salary					
c. Total Benefits					
4. Equipment	-	20,000	20,000	20,000	20,000
5. Library	5000	6000	4725	5475	2000
6. New or Renovated Space	-	-	-	-	-
7. Other Expenses	11,700	16,253	20,666	22,856	21,000
TOTAL (Add 1 – 7)	137,442	266,872	288,594	303,293	298,781

L. Adequacy of provisions for evaluation of program:

The BFA in Product Design follows MICA's institutional plan for the assessment of student learning. It is an integrated, inclusive, and sustainable process of continued renewal which brings together those most closely involved in student learning and success in the program. Faculty and staff in the program organize and implement the assessment of student learning as a way to guide programmatic change and enhance student engagement and achievement. Although institutionally organized, MICA's assessment plan supports a context-informed, collaborative process that contributes to the development of a culture of assessment and a commitment to ongoing improvement. MICA's process for the programmatic assessment of student learning is focused on direct assessment using student work and artifacts. Program assessment also incorporates local surveys and focus groups related to courses and programmatic outcomes to support and inform results from the direct assessment.



Opportunities for the ongoing Evaluation of Program Goals/Objectives

The BFA in Product Design will be assessed on a regular basis, as part of MICA's cyclical program review process. The program will use faculty reviews, course evaluations, student surveys, and informal conversations to collect regular feedback and inform an evaluation of the program. Faculty and students will have frequent opportunities to formally and informally review its implementation and make appropriate changes. Evaluation of part-time faculty and their teaching effectiveness follows a college-wide process and procedure developed as part of the collective bargaining agreement with SEIU, the union representing the adjunct faculty at MICA. The Program Director will also review course evaluations and uses outcomes from these evaluations to guide a reflective conversation among the faculty each semester. The Director has regular individual meetings with the students. These conversations provide insight into the ways courses, studio work, workshops, equipment access or other activities support student success and their goals for study in the program. Group meetings with faculty and students address programming, course content, the structure and ambience of the program, and also provide a regular feedback loop for the ways MICA can support students' educational and professional experience and the development of the community.

M. Consistency with the State's minority student achievement goals:

For the new BFA in Product Design program, recruitment of diverse students is a priority. In an effort to attract qualified applicants who represent diverse experiences, cultures, ethnicities, and socio-economic backgrounds, the College seeks to increase admissions outreach. Recruitment for the new BFA targets the local urban and regional areas, and applications that represent cultural, racial, ethnic diversity receive focused support and attention as part of the admission process. In addition, recruitment events and activities engage current students who represent various racial, ethnic, cultural, religious, and economic backgrounds in an effort to mentor culturally diverse students and under-served populations through the application process.

MICA's **Office of Diversity and Intercultural Development** creates a welcoming environment, with a specific focus on the academic, social, and cultural needs of students pertaining to issues of culture, class, race, gender, sexuality, identity, religion and more. Its mission is to create a truly multi-cultural environment promoting cross-cultural sharing and learning and the Office serves as a safe space for students to obtain information, engage in dialogue, and acquire resources and support essential to their success at MICA. This philosophy is based on fostering recognition, inclusion, and respect for the voices of all students. Students from different backgrounds may participate in a variety of programming to learn more about each other and the global community. The Office supports the role of diversity in fostering a stimulating learning environment and serving as a bridge to new artistic endeavors and has oversight in student complaints and issues where forms of discrimination and other issues/practices impede the mental, social and educational lives of students.

MICA maintains the **Center for Race and Culture (CRC)** which serves as an interactive center focused on the dynamics of race, culture and its relationship to visual art traditions and practice that will prepare students for leadership roles in the regional, national and international art world. The CRC is a site where scholars, students, artists, critics, musicians, actors and historians can research or create events, exhibitions, projects or performances that focus on the aesthetic dynamics of race and culture with the intent to break down racial barriers and build bridges of cultural understanding and meaningful and productive relationships.

MICA's **Cultural Expansion Committee** is committed to fostering a culturally diverse, creative and inclusive environment for the entire MICA community. The committee aspires to achieve this goal by facilitating projects grounded in a provocative, comprehensive and nurturing academic structure. The CEC works in tandem with the Office of Diversity and Intercultural Development in support of both curricular and extracurricular programs and projects that encourage and support the inclusion of new ideas, perspectives and peoples into the canon of the college. In this pursuit, the CEC actively works to overcome artificial impediments to cross-departmental cooperation and the creative, coordinated investment of institutional resources and energy.

N. Relationship to low productivity programs identified by the Commission:

Not Applicable. MICA will not be redistributing resources from any low-productivity program in support of this new degree program

Appendix 1 – BFA product Design – Course Titles and Descriptions

Course Descriptions. Core Design

PRO 200 | Design Studio. Fundamentals
Sophomore, Fall Semester (S3) | 3 Credits
Pre-requisite to Design Studio. Materials and Processes (PRO 210)
In the first studio course of the program, students learn the fundamentals of the design process and how it differentiates from other creative and artistic processes. The focus is on creating ideas, generating prototypes, and ultimately, understanding how to turn them into products. The essential elements of the design process - ideation (finding connections); conceptualization (sketching, sketch modeling); and prototyping (modeling for testing concepts) - are unpacked and experienced through a series of exercises that expand the students' 2D and 3D skills in preparation for future studios.

PRO 201 | Material Ecologies
Sophomore, Fall Semester (S3) | 3 Credits
Curricular pair with Design Studio. Fundamentals (PRO 200)
This studio focuses on how the environmental challenges of our time condition the work of product designers. Questions about the need for a sustainable mindset in design and manufacturing, human ecology, or social change, are brought to the table to help students develop individual perspectives on design committed to responsible materiality, user sensitivity, and social awareness. From that point of departure, this course reviews the basic categories of materials, their properties, and applications in product design, with a focus on functionality, efficiency, performance, and environmental awareness.

PRO 210 | Design Studio. Materials and Processes
Sophomore, Spring Semester (S4) | 3 Credits
Pre-requisite to Design Lab I (PRO 300)
Building on the principles learnt in the previous design studio, this course brings to discussion the material aspects of product design. Through a series of design exercises, students learn how objects and products are made, assembled, and produced, and the reasons behind evident and hidden material choices. They investigate the physical complexity of existing products by disassembling and re-assembling them to understand the relationships of parts to whole, etc. They experience the range of model-making and the various types of models available to designers, from quick sketch mock-ups to working prototypes, to high-quality look-like models, etc. The goal of this studio to help students achieve fluency in the use of mechanical machines and tools.

PRO 211 | Human Factors and Ergonomics
Sophomore, Spring Semester (S4) | 3 Credits
Curricular pair of Design Studio. Materials and Processes (PRO 210)
This introductory studio to Human Factors gives students the operational knowledge of the physical, psychological, and behavioral aspects of human interactions with their environment that will help them design new objects and products. Participants learn to be sensitive to how the objects they design complement the strengths and abilities of people who use them, and minimize the effects of their limitations. Built on a number of exercises focusing on Universal Design, Accessibility, and Inclusive Design, this class explores how design must serve the needs of users of all kinds.

PRO 212 | Design Ethics and Sustainability
Junior, Fall Semester (S5) | 3 Credits
This studio connects the materiality of products to the principles of environmental sustainability. Students understand the imperative of designing products from cradle to cradle, and the need for efficient pre-design, design, and post-design cycles. This class brings to the fore the basic scientific, economic, cultural, social, and political contexts necessary for designers to work toward a fully sustainable planet. With the support of classic works (like Papanek's Design for the Real World or Rachel Carson's Silent Spring) and a look into contemporary topics such as nanotechnology and biotechnology, this class will helping students develop an ethical and holistic approach to product design. Recommended for students in all design disciplines.

PRO 300 | Design Lab I
Junior, Fall Semester (S5) | 3 Credits
Pre-requisite to Design Lab II (PRO 310)
Design Lab I focuses on users. Students respond to a project brief developed by an external partner in conjunction with their studio instructor. Potential partners include companies, non-profit organizations, research institutions, government

agencies, etc. In addition to the design work of addressing the given project brief, students interact with the studio partner and target user groups as they develop their proposals. Critical feedback and field research are essential components of this class, in which students learn how real organizations respond to their everyday challenges through design.

PRO 301 | User-Centered Design Workshop
Junior, Fall Semester (S5) | 3 Credits
Curricular pair of Design Lab I (PRO 300)
This is a pivotal class in the program as its main driver is to raise awareness of the value of understanding users in the product design process. Some specific aspects of this course include the engagement with, and study of, different users; the creation of fictional personas that shed light into product usability; and the introduction of ethnographic research methods. Students learn the value of early user focus leading to empirical measurement and testing of product usage in relation to the four stages of the user-centered design process: analysis, design, evaluation, and implementation. Additionally, they experiment with how to apply user research to the different phases of the design process leading to the creation of innovative products.

PRO 310 | Design Lab II
Junior, Spring Semester (S6) | 3 Credits
Pre-requisite to Design Lab III (PRO 400)
As a sequel to Design Lab I, Design Lab II focuses on products emerging from entrepreneurial environments and venues, the startup world, maker communities, etc. Students are assigned to interdisciplinary teams that simulate the operational reality of micro or small enterprises. They participate in the design and development of disruptive products that respond to new market and social opportunities. Baltimore's incipient maker community is a key component of this course, as issues such as small-run production, customized fabrication, team design and dynamics, or digital output manufacturing, take center stage.

PRO 311 | Entrepreneurship Workshop
Junior, Spring Semester (S6) | 3 Credits
Curricular pair of Design Lab II (PRO 310)
The links between design and entrepreneurship are the focus of this workshop, in which students learn key aspects of self-generated businesses enterprises that permeate the spirit of innovation and start-up mentality. By participating in a team project that spans the semester and brings to focus the entrepreneurial process and its social and economic dimensions, students are exposed to the different types of entrepreneurial ventures -small-business venues, innovation clusters, social entrepreneurship, etc.- and review the bases of the entrepreneurial culture including mentorship, networking, risk-taking, etc.

PRO 400 | Design Lab III
Senior, Fall Semester (S7) | 3 Credits
Pre-requisite to Thesis Studio (PRO 410)
The final studio in the Design Lab sequence is at the intersection of market and social systems. Students respond to a given challenge that is strongly dependent upon defining the right context for the design of innovative products. This context is the broadest possible: one of systems and flows that operates invisibly to bring impactful products to mass markets at the global level. The expertise that the sponsoring partner brings to this class is fundamental in helping students understand how to respond to the challenge at hand and develop a working understanding of the role of the product designer in systems-driven, market ecosystems.

PRO 401 | Social Innovation Workshop
Senior, Fall Semester (S7) | 3 Credits
Curricular pair of Design Lab III (PRO 400)
With a clear focus on social change toward sustainability, this studio brings to the students' attention the new design paradigms resulting from incipient social experiments in collective participation, collective behaviors, sharing frameworks, and new forms of interacting with people. There is a global culture that generates activities which are intrinsically appealing to more people and often attached to the physical proximity and community interactions that cities offer. In this class, the experience of co-producing something tangible as part of a group of equal peers intersects with Baltimore's social challenges in establishing an overview of the links between the city's pressing social needs and the objects, services, interactions, and behaviors necessary to address them through design.

PRO 410 | Thesis Seminar: Megatrends
Senior, Fall Semester (S7) | 3 Credits
Curricular pair of Thesis Studio (PRO 410)
The Thesis Seminar is a space where thesis students find their voice and develop original research to fuel their individual investigations. It is a forum for discussion and co-creation that informs individual and collective thinking. It helps students frame their problems and define the conceptual underpinnings of their thesis work. The seminar has a *megatrend* component that relates to collective ambitions and collective behavior of different kinds, visible across the board and across countries. This component of looking out complements the inward-looking Thesis Seminar as students identify and become familiar with the most current thinking defining the individual and collective behavior of our time and learn how to incorporate it to their thesis investigations.

PRO 411 | Thesis Studio
Senior, Spring Semester (S8) | 3 Credits
The Thesis Studio is the culmination of the BFA program and a requirement for graduation. Each student works with a departmental advisor and a number of in-house or external advisors to develop a project resulting from a self-generated investigation. Results are broad and far ranging, from products to furniture, services, culture-driven explorations, products for social impact, etc. The onus of defining and managing the process is on students. The thesis project is an independent endeavor to demonstrate that students have acquired the fluency necessary to join the professional world of product design. Like previous studios, the Thesis Studio is allotted 3 credits, although it is highly personalized and has a greater flexibility of schedules and methodologies.

Course Descriptions. Supportive Courses in Art and Design

All the Supportive Courses offered in the new program except Communication Platforms in Design are part of MICA's current course offerings. Descriptions of those courses are available in MICA's Spring 2016 Schedule of Courses

TBD | Communication Platforms in Design
Junior, Fall Semester (S5) | 3 Credits
The processes and methods of communicating design intentions and engaging different audiences are the central focus of this class. Students explore a number of non-digital and digital tools and platforms, including product photography, writing, portfolio development, social networks, and web design. The emphasis is on finding clarity in presenting individual work in different media, and being sensitive to the possibilities and limitations of both digital and non-digital platforms. Recommended for students in all disciplines.

Course Descriptions. General Studies

All the General Studies courses offered in the new program except Systems and Systems Theory are part of MICA's current course offerings. Descriptions of those courses are available in MICA's Spring 2016 Schedule of Courses

TBD | Systems and Systems Theory
Senior, Fall Semester (S7) | 3 Credits
This course introduces systems theory and the relationships between structure and behavior at many levels affecting the design process. As our world becomes increasingly complex, systems thinking helps designers manage, adapt, and see the range of choices at their disposal when dealing with complex problems. System elements such as feedback loops, flows, resiliency, self-organization, etc. help understand the accepted definition of a system as an entity in which the whole is more than the sum of its parts, and how the behavior of systems manifests in interconnected ways.

Course Descriptions. Art & Design History

All the Art & Design History courses offered in the new program except Design History and Design Now are part of MICA's current course offerings. Descriptions of those courses are available at MICA's Spring 2016 Schedule of Courses

TBD | Design History
Sophomore, Spring Semester (S4) | 3 Credits
Pre-requisite to Design Now (PRO 302)

This course is an overview of the evolution of the different design disciplines since mid-19th century until the year 2000. The evolution of objects, furniture, interiors, graphics, and products, is unpacked through lectures, group discussions, and mini research exercises. The changing role of the designer and its value for society provide the platform to understand broader social, cultural, and economic considerations. As a pre-requisite to Design Now, this course provides the foundation to understand how design evolved up until the 21st century, and the keys to understand today's design status quo.

TBD | Design Now
Junior, Fall Semester (S5) | 3 Credits
From the Y2K problem -the Millennium Bug and the computer crisis that never happened- product design has evolved very quickly in the last decade and a half. The first iPhone was released in 2007, unpacking a revolution in the way people communicate, gather and use information, and relate to each other. Advances in manufacturing technology, the protagonism of immersive customer experiences, or the digital/physical duality in our everyday interactions, define some of the trends in product design that explain the present and will shape the future. This course examines current thinking and acting in the world of design, together with its key social, cultural, and economic implications.

Examples of Possible Studio Electives

TBD | Advanced Fabrication and Robotics
Junior and Senior, Fall and Spring Semesters (S5-S8) | 3 Credits
This course is an up-to-date survey of advanced fabrication methods and equipment and how technology is transforming product design. Students will visit a number of companies, industries, and organizations currently using advanced fabrication methods. Bringing cutting-edge technology to their design processes will allow students to cross the line between the world of physical objects and the world of the supporting technology that is changing the way we think and make things.

TBD | Designing for the Public Sector
Junior and Senior, Fall and Spring Semesters (S5-S8) | 3 Credits
Public agencies are pressed to innovate at a time when there are less and less resources to respond to increasingly complex expectations on the part of citizens. This studio examines the expansion, in recent years, of the role of design in the public sector. Students develop a project in conjunction with a governmental agency and explore how design and design thinking play a key role in government. This class presents design as a unitary front -graphic, product, service, experience, interaction, etc.- that has become fundamental in the transformation of government at the local, national, and international levels, and offers extraordinary opportunities for collaboration with fellow MICA students.

TBD | Advanced Social Design Studio (or consider GD 433 Design For Change)
Junior and Senior, Fall and Spring Semesters (S5-S8) | 3 Credits
The social, cultural, political and economic systems that define the boundaries of product design are at the center of this studio. In conjunction with MICA's Center for Social Design, students will have the opportunity to participate in a real world project in the area of social design. Understanding the economic, social, cultural, environmental, and political issues that influence design today and how designers have the responsibility to define their position in relation to them is the goal of this course, which will develop a portfolio of solutions for the given challenge.

TBD | Interactions Studio (or consider GD 347 Design For User Experience)
Junior and Senior, Fall and Spring Semesters (S5-S8) | 3 Credits
As a key part of the user-centered design methodology, an adequate understanding of user experience is fundamental in designing, communicating, and evaluating user interfaces. This studio proposes an investigation into how products and interfaces relate and influence each other. Our interaction-heavy society demands design processes that nimbly integrate the design, communication, evaluation, and iteration phases. Common techniques such as paper prototyping, wireframing, and page schematics, HTML wireframes, and interactive prototypes, will be presented in this class, which is an opportunity for collaboration with the Interactive Arts and Gaming program.

Examples of Possible Electives in the Area of Quantitative Reasoning, in Addition to MICA's Current Offerings

TBD | Quantitative Reasoning
Junior, Spring Semester (S6) | 3 Credits

We live in an age defined by vast amounts of information that is quantitative in nature. This course equips students to critically analyze information and data to make better decisions. Quantitative literacy includes a number of practical and intellectual skills that add up to the ability to think quantitatively. Students study evidence and evidence-based methods; they learn to evaluate evidence and communicate their arguments in public. Although this class has a clear mathematical filiation, it encompasses a broad range of skills and methodologies of great value to navigate today's world.

TBD | Statistical Methods and Data
Junior, Spring Semester (S6) | 3 Credits
In this introductory class, students learn the role of statistics in the analysis and interpretation of data in a variety of contexts. In our data-heavy society, students have the opportunity to understand the basics of statistical methods of analysis and how structured data and predictive models influence the design and decision-making processes. The role of data collection and management in different contexts and for different purposes is examined as a key issue that affects designers, users, and society at large.

TBD | Nano
Junior, Spring Semester (S6) | 3 Credits
Nanotechnology is the ability to build objects at the atomic level. There is also nanoscience, nanopatterns, nanoclusters, and many other "nanos" that refer to a world of great value but invisible to the naked eye. This course examines the relationships and potential juxtapositions between design and the nano worlds at different levels: philosophical, scientific, representational, operational, etc. Students will discuss topics in biology, chemical engineering, artificial intelligence, systems engineering, etc. which play key roles in defining the boundaries of multiple nano worlds. This class is an opportunity to establish new relationships between design and modern science with profound implications for society.

Examples of Possible Electives in the Area of Social and Behavioral Sciences, in Addition to MICA's Current Offerings

TBD | Introduction to Ethnographic Methods
Junior, Spring Semester (S6) | 3 Credits
The fundamentals of ethnography and their value in informing the design process are the main focus of this course. Students are exposed to a number of ethnography lenses used by product designers to understand human behavior and human activities in different contexts. Data collection methods, data analysis and reporting, behavioral observation and direct observation techniques, context-rich observation, and sampling, are some of the elements of this course, which emphasizes the importance of ethnographic research methods in product design.

TBD | Introduction to Behavioral Science
Junior, Spring Semester (S6) | 3 Credits
In this introductory course, students will explore the nature of decision-making processes and the potential behavioral barriers for users to accept new products, objects, and services. With an emphasis on learning to identify the appropriate behavioral interventions for a given audience and a given context, and how products may embed elements that address individual and collective behavior, this course introduces meaning in product design.

TBD | Focus Groups and UX Research
Junior, Spring Semester (S6) | 3 Credits
Focus groups were developed in the 1930s as a social research method. Since then, they have evolved into a tool for companies or individuals to survey the desires and priorities of a given target audience in quick and inexpensive ways. In this class, students will learn how to design effective focus groups that yield useful insights for product design and development. They will also learn the different types of focus groups -exploratory, feature prioritization, competitive analysis, etc. and how each one of them maximizes the effectiveness of different phases of the product design process.

Examples of Possible New Electives in the Area of Physical and Natural Sciences, in Addition to MICA's Current Offerings

TBD |Life Sciences
Senior, Fall Semester (S7)| 3 Credits
This is an introductory course to biology and chemistry. It integrates basic chemical and biological principles and applies those concepts to larger biological problems such as diseases, epidemics, etc. The first half of the semester is dedicated to the study of basic chemistry, with a brief overview of its application to materials. The second part of the semester

focuses on molecular and cellular biology, and the lessons learned that may be applicable to artistic and creative disciplines, advanced materials, ecosystems, etc.

TBD | Physics: Classical Mechanics
Senior, Fall Semester (S7) | 3 Credits
This class introduces forces and forces as vectors; kinematics and the ways to describe motion; Newtonian theory; circular and angular motion; energy; and gravity. It reviews those concepts both in abstract, and through examples found in nature and everyday life. Students learn to perceive the world around them in mathematical terms, and the value of scientific thinking. The study of energy is particularly important as it relates to motion and materiality. In the last part of the course, students are asked to apply the basic concepts of physics to concrete problem-solving dilemmas.

Examples of Studio Electives in the Area of Design Practices

TBD | Professional Practice Seminar
Senior, Fall Semester (S7) | 3 Credits
Through a series of presentations, field trips, and discussions, this course offers a broad overview of the different modalities of contemporary professional practice for product designers, including commercial and corporate, socially-driven, the non-profit and public service sectors, communication and writing, etc. It also brings to discussion the newer opportunities available for designers in science, technology, systems, and organizations.

TBD | Intellectual Property and Patents
Senior, Fall Semester (S7) | 3 Credits
What is the role of intellectual property in a society where rapid innovation is the norm? Are patents still valuable, strategically and economically? This seminar discusses a broad range of topics related to intellectual property in its multiple formats -patents, trademarks, digital creation, etc.- and examines the current value and implications of owning the legal rights which protect creative works, inventions, and commercial goodwill.

TBD | Advanced Speaking
Senior, Fall Semester (S7) | 3 Credits
Ideas are the currency of our time. This course helps students present their ideas to different audiences in an engaging, effective, way. Focusing on delivery and the mastery of techniques for effective public speaking, this class is a hands-on survey of different ways of communicating ideas to large audiences. From planning and preparation, to selecting the right pace and tone, to rehearsing and improving the outcome, this class helps students overcome their limitations and become effective public speakers in communicating their designs.

TBD | Strategic Design and Product Development
Senior, Fall Semester (S7) | 3 Credits
Product development today hinges on the ability of large and small organizations to make strategic decisions on time and on point. This course presents the fundamental aspects of strategic thinking and how it impacts product design. Through the review and discussion of case studies, and the exploration of different methodologies of problem framing and problem solving, this class gives students the opportunity to understand the principles that define strategic design practice today.

TBD | Advanced Modeling: Catia and PTC Creo
Senior, Fall Semester (S7) | 3 Credits
This is a course in specialized skill-building that gives students the opportunity to familiarize themselves with the most advanced software packages available to product designers today. Both Catia and PTC Creo (formerly known as Pro/Engineer) are 3D CAD/CAM/CAE packages used in high-end industrial applications for high-performance modeling and manufacturing.

TBD | Introduction to Engineering in Design
Senior, Fall Semester (S7) | 3 Credits
Product engineering goes hand in hand with product design. This course is an overview of the role of engineering in the optimization and fabrication of products. With an overview of the role of engineers in different products -medical or electronic devices are usually more engineering-heavy than furniture or consumer products, etc.- this course focuses on the interdependency between design and engineering through a series of presentations, discussions, case studies, and field visits.

Appendix 2: Content Specific Student Curricular Plan

The program of study for the new degree by semester, based on a total number of 120 units (semester hours), is as follows:

FRESHMAN FOUNDATION YEAR, FALL SEMESTER (S1) - 15 UNITS

FF 100	Elements of Visual Thinking I	3	Supportive Courses	Required
FF 198	Drawing I	3	Supportive Courses	Required
FF 210	Electronic Media and Culture	3	Supportive Courses	Required
FF 101	Sculptural Forms	3	Supportive Courses	Required
AH 100	Art Matters	3	Art & Design History	Required

FRESHMAN FOUNDATION YEAR, SPRING SEMESTER (S2) - 15 UNITS

FF 102	Elements of Visual Thinking II	3	Supportive Courses	Required
FF 199	Drawing II	3	Supportive Courses	Required
FF 150	Painting 1	3	Supportive Courses	Required
	Studio Elective	3	Supportive Courses	Elective
LA 101	Critical Inquiry	3	General Studies	Required

SOPHOMORE YEAR, FALL SEMESTER (S3) - 15 UNITS

PRO 200	Design Studio. Fundamentals	3	Core Design	Required
PRO 201	Material Ecologies	3	Core Design	Required
	Studio Elective	3	Supportive Courses	Required
IHIST 200	Intellectual History I (Distribution Elective)	3	General Studies	Elective
AH 201	Modernism and After	3	Art & Design History	Required

SOPHOMORE YEAR, SPRING SEMESTER (S4) - 15 UNITS

PRO 210	Design Studio. Materials and Processes	3	Core Design	Required
PRO 211	Human Factors and Ergonomics	3	Core Design	Required

PRO 212	Design Ethics and Sustainability	3	Core Design	Required
IHST 250	Intellectual History II (Distribution Elective)	3	General Studies	Elective
	Design History	3	Art & Design History	Required

JUNIOR YEAR, FALL SEMESTER (S5) - 15 UNITS

PRO 300	Design Lab I	3	Core Design	Required
PRO 301	User-Centered Design Workshop	3	Core Design	Required
PRO 302	Communication Platforms in Design	3	Supportive Courses	Required
	Humanistic Studies Elective *	3	General Studies	Elective
	Design Now	3	Art & Design History	Required

JUNIOR YEAR, SPRING SEMESTER (S6) - 15 SPRING UNITS

PRO 310	Design Lab II	3	Core Design	Required
PRO 311	Entrepreneurship Workshop	3	Core Design	Required
	Studio Elective	3	Supportive Courses	Elective
	Humanistic Studies Elective *	3	General Studies	Elective
	Humanistic Studies Elective (Literature Requirement)	3	General Studies	Elective

SENIOR YEAR, FALL SEMESTER (S7) - 15 UNITS

PRO 400	Design Lab III	3	Core Design	Required
PRO 401	Social Innovation Workshop	3	Core Design	Required
PRO 410	Thesis Seminar: Megatrends	3	Core Design	Elective
	Art History Elective	3	Art & Design History	Elective
	HS Theory Elective (Systems and Systems Theory? **)	3	General Studies	Required

SENIOR YEAR, SPRING SEMESTER (S8) - 12 UNITS

PRO 411	Thesis Studio	3	Core Design	Required
	Studio Elective: Design Practices	3	Core Design	Required
	Studio Elective	3	Supportive Courses	Elective
	Humanistic Studies Elective *	3	General Studies	Elective
	Humanistic Studies Elective	3	General Studies	Elective