SACI

STUDIO
ARTS
COLLEGE
INTERNATIONAL

WITHOUT LIMITS
NEW DESIGNS FOR ACTIVE AGING

FLORENCE, ITALY

A COURSE COLLABORATION

WITH DAINESE D-AIR LAB

AND MIT AGELAB

saci-florence.edu

MISSION

SACI'S MISSION IS TO PROVIDE UNDERGRADUATE AND GRADUATE STUDENTS WITH A CHALLENGING, LIFE-ENHANCING EXPERIENCE IN THE CENTER OF FLORENCE IN TRADITIONAL AND CONTEMPORARY STUDIO ARTS, DESIGN, CONSERVATION, AND ART HISTORY. STUDENTS DIRECTLY ACCESS CENTURIES OF ITALIAN CULTURE THROUGH A WIDE RANGE OF COURSES OF ACADEMIC EXCELLENCE. SACI ENGAGES IN LEADING AREAS OF RESEARCH AND EXPLORATION, INTERACTS WITH THE COMMUNITY THROUGH ARTISTIC AND SOCIAL PROGRAMS, AND PREPARES STUDENTS TO EXCEL IN THEIR FUTURE CAREERS AS ARTISTS AND DESIGNERS.

*SACI's **Without Limits** Studio will challenge students to rethink fashion while simultaneously integrating protective technologies for the aging population.*

INTRODUCTION

WITHOUT LIMITS IS AN INTERDISCIPLINARY DESIGN COURSE DEVELOPED BY SACI IN COLLABORATION WITH AND WITH THE GENEROUS SUPPORT OF **DAINESE'S D-AIR LAB** GUIDED BY **CEO VITTORIO CAFAGGI** AND THE **MIT AGELAB** GUIDED BY **DIRECTOR JOSEPH COUGHLIN.**

STUDENTS WHO ARE AT THE INTERMEDIATE OR ADVANCED LEVEL IN FASHION DESIGN, INDUSTRIAL DESIGN, INTERACTION DESIGN, AND GRAPHIC DESIGN WILL BE ELIGIBLE FOR THIS COURSE. *WITHOUT LIMITS* WILL BRING TOGETHER THEORETICAL AND PRACTICAL APPROACHES THROUGH COLLECTIVE INTERDISCIPLINARY PROBLEM-SOLVING IN A STUDIO FORMAT WITH A HUMAN-CENTERED APPROACH TO DESIGN.

D Air Lab

BELOW: PROTECTIVE WEARABLE CLOTHING FROM DAINESE'S D-AIR LAB.

Dainese's revolutionary airbag technology is being used for motor-cycle racing (MotoGP) http://www.motogp.com/ - and they are now developing protective clothing for the elderly and people with epilepsy to reduce or eliminate impact when falling. Students will cross-pollinate their skills and ideas, applying current industry research and their creative skills to advance their designs. This practical, hands-on studio will also encourage entrepreneurial thinking.

Students will be exposed to the research and development conducted by Dainese and the Agelab, focusing on the aging population. Students will then apply research, design, and entrepreneurial thinking to develop their ideas towards practical outcomes.

This studio will take place at SACI in Florence with the MIT Agelab and Dainese providing expert guidance throughout the semester. Instructors and experts in the area of Fashion Design, Fiber, Industrial Design, Visual Design, and Interaction Design will guide students through complex problem-solving and innovating.

Smart-wearable garments and new technology innovations for the aging population will be brought into the investigation. Anatomical studies and advanced understanding of the changing behavior of the human body will be analyzed in relation to the design solutions.

BACKGROUND

The aging population is currently at its highest level in human history. The UN predicts the rate of population aging in the 21st century will exceed that of the previous century. The number of people aged 60 years and over has tripled since 1950, reaching 600 million in 2000 and surpassing 700 million in 2006. It is projected that the combined senior and geriatric population will reach 2.1 billion by 2050.

Innovators worldwide are recognizing the rising challenges and the need to respond to this rapidly growing aging population. The *Without Limits* studio aims to challenge long held myths and misperceptions about this demographic, recognizing above all the extraordinary untapped potential for innovation and economic growth that exists.

COURSE STRUCTURE

This unique collaborative studio seeks to advance innovation in wearable and interactive technologies in clothing for the active aging population. The structure of this intensive course will be conducted as a collaborative interdisciplinary studio.

Students will be encouraged to learn from pioneering research in material sciences, computation, and fabrication to inform behaviors and improve techniques for design. The course structure is based on the phases of *Design Thinking* (an iterative, experience/empathy-based problem-solving process) and *Interaction Design* (the psychology of motion and feedback response). At the final stages of the studio, the designs will be considered for their efficiency, efficacy, usability, and applicability for the aging population.

Phase I: Research and Analysis - Empathic Understanding

The course begins with a visit to Dainese Headquarters in Vicenza. Students will learn about the 45-year history of innovation at Dainese and tour their *Experience Center*. Following this, students will visit the *D-Air Lab* on a guided tour and lecture by CEO Vittorio Cafaggi to see and learn about intelligent clothing coupled with a protection technology platform using smart sensing system to detect dangerous situations. Students will gain insight into Dainese's technologies, including their revolutionary air-bag technology, and meet the engineers and designers performing this work. Following this site visit, students will begin building their own research and obtain material to advance their thought process and understanding of the fashion design market, barriers to entry, as well as demand and trend forecasting for smart wearable clothing for the active aging. Analysis will be conducted on the preconceptions of the aging population and reconstructing a new mindset for design for this demographic. Excerpts from Joseph Coughlin's book *The Longevity Economy* will be brought to bear in this studio. Joseph Coughlin will give a lecture to include interaction and Q&A with the students and faculty.

Phase II: Defining the Problem

How do we design intelligent clothing, equipment, and environments for an elderly person? How is the clothing integrated as everyday clothing in an ergonomic, fashionable way, and tailored to the human body? How does the elderly person feel about wearing a technology apparatus? How does adoption of new smart-wearable technology affect the lifestyle and actions of the aging person? How are they perceived, and how do they want or expect to be perceived by others?

In this next phase, the team of student designers (Fashion, Industrial, Graphic, and Interaction Design) will synthesize their core problem statements with a focus on

a human-centered design solution. Even though the objective of the clothing is to provide protection to the person without their direct intervention, how it is designed in an unobtrusive manner and adopted as everyday wearable clothing will be the challenge.

Phase III: Ideation

By this stage, students will identify and understand the person they are designing for. This could be understood as the Empathic stage in which the student will have analyzed and synthesized his/her observations and established a human-centered problem statement and approach. In this phase, the Graphic Design students will share their observations about the current and future portrayal of the aging population and how this demographic may be re-branded and their value to society more fully appreciated.

Based on a shared understanding of the problem statement, students will work together in this phase to develop *concept solutions* using alternative ways of viewing the problem. This is a time to brainstorm and for students and faculty to integrate their respective skills, experiences, and observations in each of their disciplines.

Phase IV: Prototyping

Concept designs (in multiple forms and media such as 3-D renderings, physical models, and sketches) emerging from the Ideation phase will be further developed as demonstration prototypes. These are most likely to be scaled down versions of the design/s in order for the student to test and investigate the problem solutions generated in the previous stages. The prototype may be a technology gadget, an algorithm, or a garment, or the combination thereof. These collectively made prototypes will be shared and tested by the team of students, faculty, experts from Dainese or MIT, and all those who participate as critics and guides. This is still an *experimental* stage of design, and the aim is to propose the best possible solution for each of the problems identified during the first three stages. By the end of this phase, the student and the design team will have a better idea of the advantages and constraints inherent to the design. The student will in this phase provide evidence and try to anticipate with greater insight how real users might behave, think, and feel when interacting with their designs.

Phase V: Final Critique of the Conceptual Design

Due to the short period available for this course, there will not be the opportunity to develop these prototypes as a finished

product; however, the course instructors will work closely with students individually to bring closure to their ideas and have their concepts developed sufficiently so they could be taken to a higher level of development.

DELIVERABLES

Students in this course will be expected to complete the following:

→ A conceptual prototype in a medium that best represents the core ideas, functionality, and desired outcomes of a finished project (this can be individually or collectively generated)

→ A digital summary presentation of the research, findings, and completed project. A written description of the stages of design and final project presentation graphically presented. This studio may be published. SACI will display the projects at end of term in the form of an exhibition in Palazzo Maidoff.

LEARNING OUTCOMES

By the successful completion of this course, students will be able to:

→ Demonstrate understanding of interdisciplinary collaboration and the creative process through the methods of research, analysis, and problem solving with a shared goal of generating design development relevant to the project brief

→ Evidence of the ability to engage with industry experts and academic partners with a critical awareness of the management of these relationships to achieve desired outcomes

→ Evidence the ability to identify problems and to apply concepts, principles, and techniques to generate solutions

→ Demonstrate competence in producing original designs from research, teamwork, and concept development to prototyping and executing a product through appropriate methods and processes

→ Demonstrate a visual competence, critical thinking, aesthetic choices, and the ability to communicate ideas effectively and efficiently

→ Demonstrate a generosity of spirit and desire to design for social good

SACI FACULTY

Jessica Hayoz
Without Limits Course Coordinator
(Fashion Design, Trend Forecasting, Behavioral Design, Apparel Product Development)

Camilla Torna
(Visual Design, Graphic Design, Branding)

Roberto Fazio
(Interaction Design, Interactive Art and Design, Computational Design)

STUDIO SPONSORS

SACI is grateful for the generous sponsorship of:

Joseph Coughlin - Director MIT AgeLab
agelab.mit.edu/people/joseph-f-coughlin
agelab.mit.edu/about-agelab

Vittorio Cafaggi - CEO Dainese D-Air Lab
dainese.com/d-air/
youtube.com/watch?v=iSbvuLIuuP4

VISITING FACULTY

Annet Couwenberg - Professor, Fiber Department, Maryland Institute College of Art (MICA)

mica.https://www.mica.edu/About_MICA/People/Faculty/Faculty_List_by_Last_Name/Annet_Couwenberg.html

Guillermo Trotti - Architect and Industrial Designer/SACI Trustee
trottistudio.com/profile/

APPLICATION PROCESS

This course seeks out highly motivated and hard-working students in Fashion Design, Industrial Design, Interaction Design, and Graphic Design who thrive in an environment of team-work and collaboration. Students in Intermediate or Advanced Level only will be admitted. The studio size is restricted and SACI reserves the right to limit the admissions. Detailed pre-requisites are listed in the course description available on the SACI website.

This studio class (90 contact hours, 3 credits) will be offered in Fall and Spring terms only. In addition, students will be able to enroll in 4 other SACI classes to be chosen among SACI's undergraduate course offerings (see complete list on SACI's website).

Completed applications should be received no later than **November 15** for the following Spring term, and **June 15** for the following Fall term.

Applicants must complete and submit the online application form for a regular SACI Academic Year / Semester Abroad program through the SACI website, making sure to select the Interdisciplinary Design studio course ("Without Limits") in their course selection, and by submitting a $70 non-refundable application fee.

For further information contact SACI's New York Admissions Office at: admissions@saci-florence.edu

STUDIO ARTS COLLEGE INTERNATIONAL

10_2018

www.saci-florence.edu