

# DESIGN TECHNOLOGY (GRADUATE FIELD)

Program Website (<https://designtech.cornell.edu/academics/designtech/master-science-design-technology>)

## Field Description

The M.S. Design Technology program bridges disciplines and domains with the aim of generating innovations across science and design for applications spanning digital tools, products, responsive materials, and the built environment. To this end, an expanded scope of faculty from across the College of Architecture, Art, and Planning, the Ann S. Bowers College of Computing and Information Science, Cornell Human Ecology, Cornell Duffield College of Engineering, and Cornell Tech, including from the Graduate Fields of Architecture, Art, Aerospace Engineering, Design & Environmental Analysis, Electrical and Computer Engineering, Physics, Fiber Science & Apparel Design, Information Science, Materials Science and Engineering, Mechanical Engineering, and Systems Engineering compose our inaugural faculty. Cornell faculty affiliates and new cross-cutting Radical Collaboration tenure-track hires together known as DTech Faculty & Fellows share resources, engage in collaborative research and workshops, and co-teach transdisciplinary design studios and seminars.

**Year One:** Upon entering the M.S. Design Technology program, students take core studios and courses to develop foundational skills in design and technology. In addition to the required core studio sequence and courses, including Coding for Design and Design for Physical Interaction, students take elective courses in support of their research and project interests. For some students, these may be classes in computer science, for others courses in digital fabrication, biology, materials science or field research methods. These classes are carefully selected in consultation with the student's primary advisor. At the end of the first year, students who elect to do a research thesis are required to produce a comprehensive research plan, with supporting materials, outlining the approach to their thesis. Students also must select a full (2-person) special committee in place no later than the end of the first year.

**Year Two:** In the second year of the program, students pursue one of two tracks, a thesis-centered design research program (Ithaca-based) or a studio professional track (Cornell-Tech based). Students in both tracks work closely with faculty, take electives in support of their research and project interests during the fall term, and complete a capstone project in the spring semester. Students in the studio professional track at Cornell Tech take the studio sequence, which includes Product Studio in the fall and either Startup, BigCo, or PiTech studio in the spring. In this track, students develop a collaborative specialization project in teams.

## Distinctive elements of the program and field

The Design Technology program is a two-year research and project degree offered jointly by the College of Architecture, Art, and Planning and Cornell Tech which culminates in a master of science (M.S. DT). Students pursue research in areas that bridge disciplines and domains with the aim of generating innovations across science and design for applications spanning digital tools, products, responsive materials, and the built environment. The transdisciplinary nature of the program is its unique strength where Design Technology spans multiple disciplines and fields. Synergistic fields and concentrations include:

Architecture, Robotics, Fiber Science and Apparel Design, Information Science, Mechanical Engineering, Materials Science and Engineering, and Design and Environmental Analysis.

## Data and Statistics

- Professional Master's Program Statistics (<https://gradschool.cornell.edu/about/program-metrics-assessments-and-outcomes/professional-masters-program-statistics/?SelectGradField=ab>)
- Research Master's Program Statistics (<https://gradschool.cornell.edu/about/program-metrics-assessments-and-outcomes/research-masters-program-statistics/?SelectGradField=ab>)

## Field Manual

Degree Programs

- Design Technology (MS) (<https://catalog.cornell.edu/programs/design-technology-ms/>)
- Design Technology: Studio (MS) (<https://catalog.cornell.edu/programs/design-technology-studio-ms/>)

Concentrations by Subject

## Design Technology

- design technology
- matter design computation

## Design Technology: Studio

- design technology
- matter design computation

## Faculty

Tiffany Y Cheng (<http://aap.cornell.edu/people/tiffany-cheng>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology:* design technology; *Design Technology: Studio:* design technology
- **Research Interests:** Architectural technology, Computational design, Robotic fabrication, Additive manufacturing, 4D-printing, Material programming, Biomaterials, Responsive materials, Bioinspired structures, Ecological practice, Sustainability

Itai Cohen (<http://physics.cornell.edu/itai-cohen>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology:* design technology; *Design Technology: Studio:* design technology
- **Research Interests:** Origami, Bioloocomotion, Mechanics of Biological Tissues, Microscopic Robots, Bioinspired Design

Timur Kamil Dogan (<http://aap.cornell.edu/people/timur-dogan?department=8>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology:* design technology; *Design Technology: Studio:* design technology
- **Research Interests:** Architectural design, Sustainability and building energy modeling, Computational design

Francois V. Guimbretiere (<http://bowers.cornell.edu/people/francois-guimbretiere>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Information Science, Interaction design, HCI, HRI, Robotic Fabrication, 3D printing

Harald Haraldsson (<http://tech.cornell.edu/people/harald-haraldsson/>)

- **Campus:** Ithaca/Cornell Tech (NYC) - (Minor Member)
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Virtual and Augmented Reality, 3D User Interfaces, Interaction Design

Wendy Guang-wen Ju (<http://tech.cornell.edu/people/wendy-ju/>)

- **Campus:** Cornell Tech (NYC)
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Information Science, Interaction design, HCI, Human-Robot interaction, open source hardware

Saleh Kalantari (<http://www.human.cornell.edu/people/sk3268>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Human–Building Interaction, Spatial Cognition & Wayfinding, Virtual & Augmented Reality (VR/AR), Computational Design, Evidence-Based Design, Neuroarchitecture

Marirena Kladeftira (<http://aap.cornell.edu/people/marirena-kladeftira>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Architectural technology, Computational Design, Additive Manufacturing, Robotic fabrication, Human-robot interaction, Physical Interaction, Lightweight Structures, Sustainability

Heeju Terry Park (<http://www.human.cornell.edu/people/hp347>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Smart clothing, Wearables, Computational Fashion, Sportswear and Shoes

Jenny Sabin (<http://aap.cornell.edu/people/jenny-sabin?department=8>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Architectural design, Bioinspired design, Biomimicry, Ecological practice, Architectural Practice, Collaborative Practice, Architectural technology, Computational Design, Digital Fabrication, Sustainability

Lawson Lee Spencer (<http://aap.cornell.edu/people/lawson-spencer>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology

James C. Weaver (<http://aap.cornell.edu/people/james-weaver>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Biologically inspired materials, architecture, and design; Advanced manufacturing and 3D data visualization, Multiscale imaging and materials characterization

Ulrich Bernd Wiesner (<http://www.engineering.cornell.edu/faculty-directory/uli-b-wiesner>)

- **Campus:** Ithaca
- **Concentrations:** *Design Technology*: design technology; *Design Technology: Studio*: design technology
- **Research Interests:** Materials Design, Advanced Materials, Materials Synthesis and Processing, 3D Printing/Additive Manufacturing, Nanotechnology and Nanobiotechnology, Nanomedicine and Theranostics, Biomedical Imaging, Soft Matter and Self-Assembly, Asymmetric Ultrafiltration Membranes for Biotechnology and Clean Water, Materials for Energy and Sustainability, Soft Matter enabled Quantum Materials