

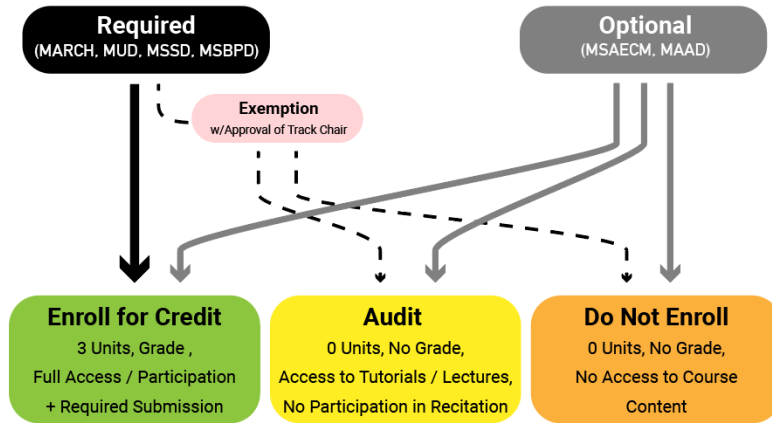
Carnegie Mellon University

2023 Design Skills Workshop (DSW)

INTRODUCTION

DSW is a 3-unit mini summer course (#48-689) for incoming SoA graduate students to establish a baseline of digital design skills appropriate to the expectations of the design culture at SoA. The full extent of the course must be completed in order to receive a passing grade for the course that will appear on the fall semester transcript and is included in the cost of your full-time fall tuition. DSW is an online-only series of micro workshops, assignments, and tutorials on digital design skills. Organized around a single design project subdivided into short exercises, students will demonstrate the fundamentals of 2D graphics (Photoshop, Illustrator, InDesign), architectural drafting (Rhino), 3D modeling (Rhino), and parametric modeling (Grasshopper).

For students in the **MArch, MUD, MSBPD, or MSSD programs, this is a required course.** If you feel that your past experience has covered the contents of the course, you may request approval for exemption from the course through the Track Chair of your program. DSW faculty can consult on this issue, but the decision to grant exemptions rests with the track chair. For students enrolled in **MAAD or MSAECM, this course is not required;** these students may choose to enroll as an elective, or to audit the course content for no credit. **MSCD and Phd** students may audit.



REGISTRATION

All incoming graduate students must complete the following survey. Students must first have an active Andrew ID to use the form:

<https://forms.gle/VGhBNWZcPwY4Y7QY8>

Students are not allowed to officially register for this course on their own (i.e. via SIO). Students who enroll in the course and complete it satisfactorily will be automatically registered during the fall semester. **Students for whom the course is optional should notify the instructors via the registration form before the second week of the course of their intentions to enroll, audit, or not enroll in the course.**

CANVAS SITE

After registration, all information regarding the DSW course will be available via the course Canvas site (the canvas site will go live in late May): <https://canvas.cmu.edu/courses/35200>

DSW STAFF

Course Instructors

- Sinan Goral — sgoral@andrew.cmu.edu
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Teaching Assistants

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COURSE STRUCTURE

- Duration: Jun 26 – August 4 (6 weeks)
- Location: online (Web-based via Zoom)
- Format:
 - Lecture/Workshop (2hrs) — Mondays 7:00-9:00pm (EST)
 - *Live (virtual) attendance is highly recommended. If live attendance is not possible, students are expected to view recorded versions of the sessions in a timely manner.*
 - Weekly Submissions (via Miro + Canvas) — by Sundays 10:00 pm (EST)
 - *Students are required to post assignment progress on a weekly basis.*
 - *Students are encouraged to post questions regarding the assignment materials and techniques. Questions and responses will be aggregated as a shared FAQ resource.*
 - Office Hours — TBD; Help Sessions will be available at times that cater to the diverse global time zones and professional obligations of our students
- Content:
 - Design methodology and digital craftsmanship, best practices, and work rigor
 - Foundational skills in communicating design intent and narrative through the use of drafting, modeling, and rendering workflows
 - Generative workflows using Rhino and the Grasshopper scripting platform
- Topical Outline
 - Week 1 – 3D Modeling (Rhino)
 - Week 2 – Advanced 3D Modeling (Rhino / Grasshopper)
 - Week 3 – Parametric Modeling (Grasshopper)
 - Week 4 – Parametric Modeling (Grasshopper)
 - Week 5 – Architectural Drafting (Rhino)

- Week 6 – 2D Graphics (PS + AI)

SOFTWARE REQUIREMENTS

At a minimum, students must have the following software installed and ready to use on your own computer before coming to class.

- Rhino 6 or higher
- Photoshop
- Illustrator
- InDesign

ONLINE TUTORIALS

CMU students are given full access to all LinkedIn Learning tutorials for free by logging in with their Andrew IDs via this link: <https://www.cmu.edu/web/training/linkedin-learning.html>. For students with no or limited prior experience, the pace of the course may be abrupt. Therefore, we recommend additional resources to prepare and supplement the tutorials offered within course workshops:

Essential

- Photoshop CC 2021 Essential Training: The Basics
<https://www.linkedin.com/learning/photoshop-2021-essential-training-the-basics/> (6h 29m)
- InDesign CC 2021 Essential Training
<https://www.linkedin.com/learning/indesign-2021-essential-training/> (5h 11m)
- Rhino 6 Essential Training
<https://www.linkedin.com/learning/rhino-6-essential-training-2/> (2h 8m)
- Grasshopper Essential Training
<https://www.linkedin.com/learning/grasshopper-essential-training/> (6h 24m)

Optional

- Illustrator CC 2021 Essential Training
<https://www.linkedin.com/learning/illustrator-2021-essential-training/> (5h 27m)
- AutoCAD: Construction Drawings
<https://www.linkedin.com/learning/autocad-construction-drawings/> (3h 18m)
- Architectural Site & Envelope in Rhino
<https://www.linkedin.com/learning/architectural-site-envelope-in-rhino/> (1h 12m)
- Rhino: Architectural Interior & Detail
<https://www.linkedin.com/learning/rhino-architectural-interior-detail/> (1h 45m)

Other Resources

- <http://www.grasshopper3d.com/page/tutorials-1> (Get started here with access to tutorials, videos, and other resources)
- <https://discourse.mcneel.com/c/grasshopper-developer> (Go here to find answers to specific GH questions from the GH community)
- <https://grasshopperdocs.com/> (a list of all GH components with minimal description)
- <http://www.food4rhino.com/grasshopper-addons> (Extensions for the Grasshopper environment)
- Vray for Rhino Tutorial Videos
<https://www.chaos.com/vray/rhino/tutorial-videos>
- Vray for Rhino Official Documentation
<https://docs.chaos.com/display/VRHINO/V-Ray+5+for+Rhino+Help>

GENERAL TEXTS

Textbook / Resources

- Arturo Tedeschi. AAD – Algorithms-Aided Design. (Len Penseur Publisher, 2014) – Full text available – [Full text available online](#)
- Helmut Pottmann, Andreas Asperl, Michael Hofer, and Axel Kilian. Architectural Geometry. (Bentley Institute Press, 2007) – [Full text available online](#)
- Wassim Jabi. Parametric Design for Architecture. (Lawrence King Publishing, 2013) – [Full text available online](#)

Essays

- Evans, Robin. “Translations from Drawing to Building,” in Translations from Drawing to Building and Other Essays. (The MIT Press, 1997) - [Full text available online](#)
- Lynn, Greg. “Animate Form,” in Animate Form. (The Princeton Architectural Press, 1999) - [Full text available online](#)

QUESTIONS or CONCERNS

For general questions, contact the instructor at the email address above. For computer and networking questions, contact the SoA computing services at soa-ithelp@andrew.cmu.edu.