

Origami Engineering

Fall with an optional study abroad experience in Japan
Global Engineering Leadership Minor

This course is open to all College of Engineering undergraduate students.



COURSE

ORIGAMI ENGINEERING

CEE 4803-H & ARCH 4803 PG – This class acquaints the student with state-of-the-art algorithms to design and analyze origami structures. Students will learn how to create and transform geometries by folding and unfolding, and thus apply origami to solve engineering and societal problems. In addition, using origami as a tool, we will outreach to some fundamental concepts in differential geometry.

SELECTED TOPICS TO BE COVERED:

- Application of Origami Engineering to societal problems
- Team-building and communication, development of individual awareness
- Origami design principles: How to draw a valid crease pattern
- Origami kinematics: How to fold origami
- Origami mechanics: The Shopping Bag Theorem
- Origami in engineering: Miura-ori and the Eggbox
- Making silhouettes with one cut
- Polyhedra folding and unfolding
- Triangles on Earth: Spherical trigonometry
- Basics of (discrete) differential geometry

More info: ce.gatech.edu/leadership



DATES + DETAILS

COURSE Fall semester

TEXTBOOK J. O'Rourke (2011), "How to Fold It"

CREDITS 3

PRE-REQUISITES Math 1552, Math 1553

TRAVEL TO TOKYO, JAPAN

First week of Winter Break

PROFESSOR



GLAUCIO H. PAULINO, PHD
glaucio.paulino@ce.gatech.edu

Financial aid for travel is available! Contact your course instructor.

