

IAP 2021 HST.S57 Special Graduate Subject: Medical Engineering and Physics

Cardiovascular Engineering

IAP 2021

1-0-0 (P/D/F)

Graduate (open to UG juniors and seniors)

Basic physiology, biology, and/or bioengineering is recommended.

Tuesdays/Thursdays, 2:00-3:30pm

Virtual

Integrated overview of engineering principles at different scales of the cardiovascular system focusing on biomedical devices, cellular/genetic engineering, and biomedical imaging. Specific topics of interest include stents, ventricular assist devices, biohybrid soft robotics, induced pluripotent stem cells, CRISPR/Cas9, disease modeling in animals, bioreactors, MRI, PET, CT, and optical imaging. One lecture with guest seminar and one lab per week are offered in virtual format.

Course Directors: *Ellen Roche, Christopher Nguyen*