

ME 4300 Design Project  
Summer 2018

Due – Via electronic submission on or before noon on June 26, 2018

Design a weight-driven, mechanical clock.

CAD and assembly drawings and construction details of:

- Driving works
  - Barrel
  - Driving weight
  - Winding mechanism
- Going Train
  - Number, arrangement and all details of the wheels and pinions of the going train
- Escapement
  - Pendulum - parts and adjustment details
  - Diameter and number of stops of a Graham deadbeat escape wheel
- Motion works
  - Number, arrangement and all details of the wheels and pinions of the motion works
  - Details of the connections to the minute and hour hands
  - Clear description of how the clock time is set
- Supporting plates, including details of how motion is transmitted through the plates

Calculations:

Excel file showing the forces on each pinion and wheel within the clock, and the expected performance of the clock. Design your clock so there is a reasonable chance it can run within  $\pm 10$  sec/week.

Design Groups:

Group 1

Arszylo, Marcin  
Dutta, Bidisha  
Gregory, Frank R.  
Hillman, Michael J.

Group 2

Barkho, Amelio R.  
Fasse, Jonathan P.  
Graziani, Anthony J.  
Sanders, Andrew A.

Group 3

Huyssen, Michael  
MacFarlane, Shane R.  
O'Rourke, Aidan M.  
Zhang, Yunxiao

Group 4

Hou, Jiayu  
Joya, Shitara S.  
Rasi, Viktor  
Walters, Kyle K.

Group 5

Locher, Pierce K.  
Solomon, Matthew C.  
Warner, Nicholas R.  
Wellman, Travis R.

Group 6

Guo, Bicheng  
Jelsone, Andrew D.  
Piper, Ryan  
Redoute, Joshua

Group 7

Blodgett, James L.  
Phillips, George J.  
Puckett, Cody B.  
Ren, Yiyang

Group 8

Isenberg, Lee  
Khella, Chantelle A.  
Kosnik, Paul J.  
Miller, Joseph G.  
Yang, Yang

Group 9

Cali, Armando  
Hunter, Dane M.  
Kussrow, Dennis D.  
Snyder, Daniel G.  
Venturini, Matthew P.