MATH 225: Multivariate Calculus
Fall 2018 Syllabus
MWF 1:25-2:15, SCI 113
http://math.bu.edu/people/lau/Lau/Teaching.html

Instructor:	Siu-Cheong Lau	**Teaching fellow:**	Roderic Guigo Corominas
Office:	MCS 230	**Office:**	MCS 250
Email:	lau@math.bu.edu	**Email:**	rguigo@bu.edu
Office hours:	THU 10:30-12; 2-3:30	**Office hours:**	Mon & Wed 12-1

Grading:

Homework	Collected in discussion section every week	25%
First mid-term test	Oct 3 in class (50 min)	20%
Second mid-term test	Oct 31 in class (50 min)	20%
Quiz	Nov 26 in class (25 min)	10%
Final exam	Dec 21 12:30 – 2:30 at SCI 113	25%

Textbook:
Thomas — Calculus 13th edition 2014, Chapter 12 – 16, ISBN 1323006982.
Purchased from www.mypearsonstore.com. Discount code: terriers

Lecture and discussion:
You are strongly encouraged to attend both.
Discussion Sections:
Thursday   3:35-4:25   5-5:50   Friday   9:05-9:55   10:10-11

Homework:
You must turn in physical HW, collected **every week (except the first week) at the end of your discussion section**.
If you are unable to attend discussion, you may put your HW in your TF's mailbox in the main math office (MCS 142) *before* the beginning of your discussion section.
Late assignments will not be accepted.
Please **write down your name, BU ID, and discussion section clearly** at the top of the front page of each assignment.
The assignments will be posted on the course webpage and worth 10 points each:
• **4 points for effort**
• **6 points for correctly answering three selected problems (2 points each)**
If you make a concerted attempt at each problem, you will get all 4 effort points.
You will not be told in advance which three problems will be selected.
You are encouraged to work together on the HW, but your write-ups must be your own.
Identical HW could be considered plagiarism.
Your lowest two HW grades will be dropped.

In-class tests and Final Exam:
You cannot use book, note, or calculator in tests and the final exam.
I do not give make-up tests unless you have a legitimate excuse, such as a serious illness or family emergency, and a written excuse. Please notify me in advance.
University policy states that you must take the final exam at the scheduled time.

If you feel that your in-class test or final exam was incorrectly graded, you may submit it to me for regrading within one week of receiving it.

We are pleased to help:
- Come to my or your TF's office hours, or email me or your TF.
- Go to the tutoring room, MCS B24, to get help from a graduate student. The full schedule is at
  http://www.bu.edu/math/undergraduate/resources/tutoring-room-schedule/
- Get free peer tutoring from the Educational Research Center.
  http://www.bu.edu/erc/tutoring/

LOT OF EFFORT, LOT OF FUN!

	Monday	Wednesday	Friday
Sep 5-7		Coordinates and distance	Vectors and dot product
Sep 10-14	Cross product	Lines and planes	Quadric surfaces
Sep 17-21	Curves	Arc length	Curvature and torsion
Sep 25-28	Spherical coordinates	Parametric surfaces	Continuous functions
Oct 1-5	Review	**1st mid-term**	Partial derivatives
Oct 8-12	**(Oct 9)** PDE	Chain rule	Directional derivative
Oct 15-19	Tangent plane	Linearization	Critical points
Oct 22-26	Lagrange multipliers	Global extrema	Taylor's formula
Oct 29 - Nov 2	Review	**2nd mid-term**	Double integrals
Nov 5-9	Polar integration	Triple integrals	Area of curved surfaces
Nov 12-16	Substitution	Vector fields	Line integrals of vector fields
Nov 19	Line integral theorem	**Thanksgiving**	
Nov 26-30	**Quiz**	Conservative fields	Greens theorem
Dec 3-7	Curl, divergence and flux	Surface integrals of vector fields	Stokes theorem
Dec 10-14	Divergence theorem	Review	