Spring 2017
Math 2263: Multivariable Calculus

Lectures: MWF 1:25–2:15 in Fraser Hall 101.

Office Hours: Robert Gulliver M 11:15–12:05, WF 2:30–3:20 in VinH 452, ph. 625-1560, `gulliver@math.umn.edu`.
Jonathan Hahn, MW 9:05, M 12:20 and W 1:25 in 454 VinH, ph. 624-4523, `hahnx240@umn.edu`
Jun Park, TTh 3:30–5:20 in 454 VinH, ph. 624-3531, `junepark@umn.edu`
Doga Guctenkorkmaz, TTh 12:10–1:00 and 2:30–3:20 in 420 VinH, ph. 624-0518, `gnkor001@umn.edu`

Discussion sections:
21. TTh 1:25–2:15PM in VinH 6. TA: Jonathan Hahn
22. TTh TTh 1:25–2:15PM in VinH 211. TA: Jun Park
23. TTh TTh 1:25–2:15PM in VinH 113. TA: Doga Guctenkorkmaz
24. TTh 2:30–3:20PM in VinH 311 TA: Jun Park
25. TTh 2:30–3:20PM in VinH 20. TA: Jonathan Hahn

Text: James Stewart, *Calculus: Early Transcendentals*, Eighth ed. vol. 2. Cengage Learning, Boston 2016.

Course web page: `www.math.umn.edu/~gulliver/2263/`

Homework List: Problems from Stewart

Homework: due each Tuesday, January 24 – May 2. Only the **starred*** problems need to be written up and turned in.

January 24: 12.1 (p. 796=**first** page) #3, 9, 11, 15*, 19, 35;
    12.2 (p. 805) #3, 5, 7, 25*, 29, 39;
    12.3 (p. 812) #7, 9, 27, 53;
    12.4 (p. 821) #11,19*, 27, 29, 33;
    12.5 (p. 831) #9*, 17, 21, 33, 35, 47, 57, 67.

January 31: 12.6 (p. 839) #5, 13, 21*-28*, 35, 47, 51;
    14.1 (p. 899) #21, 32*, 37, 43, 49, 61-66;
    14.2 (p. 910) #9, 15, 17, 29, 37*, 41;
    14.3 (p. 923) #9, 15, 25, 33, 43, 49, 55*, 61, 65, 77, 99.
    Ch. 12 Review Exercises (p. 842) #1ab, 5, 11, 17, 33, 35, 37.

February 7: 14.4 (p. 934) #5*, 15, 17, 25, 31, 39;
    14.5 (p. 943) #1, 7, 11, 13*, 21, 27, 33, 37, 39, 45, 53.

February 14: 14.6 (p. 956) #9, 11, 15*, 31a, 33, 43, 54, 61.
    14.7 (p. 967) #1, 3, 5*, 9, 19, 21, 31*, 35, 47, 53.

February 21: 14.8 (p. 977) #3, 5*, 9, 15, 21, 27, 45, 49;
    15.1 (p. 999) #3, 5, 11*, 21, 23, 27, 33*, 41, 47;
    15.2 (p. 1008) #3, 5*, 9, 13, 15, 17, 23, 37, 53.
    Ch. 14 Review Exercises (p. 982) #8, 13, 19, 27, 31, 35, 41, 46, 47, 53, 55, 61.

February 28: 15.3 (p. 1014) #5, 7, 11*, 15, 21, 29, 35*, 39;
    15.4 (p. 1024) #1, 3, 7*, 11, 15, 19, 23, 27, 29.

March 7: 15.5 (p. 1028) #2, 5*, 7, 9*, 21, 23;
   15.6 (p. 1037) #1, 3, 5*, 11, 17, 29, 41, 53;
   15.7 (p. 1043) #9a, 17, 21*, 23, 27, 29.

March 13–17: Spring break!

March 21: 15.8 (p. 1049) #3b, 9b, 15, 17, 21*, 23, 25, 29, 33;
   15.9 (p. 1060) #5, 9, 13, 15*, 17, 19*, 27.
   Ch. 15 Review Exercises (p. 1062) #5, 7, 9, 11, 19, 21, 25, 35, 41, 51, 55.

March 28: 13.3 (p. 868) #3*, 11. **16.1** (p. 1073) #11*-14*, 21, 25*, 27, 29-32, 33, 36;
   16.2 (p. 1084) #3*, 5, 9, 11, 19, 21, 29a, 33, 35, 38, 50.

   item[April 4:] **16.3** (p. 1094) #1, 3*, 5, 7, 11, 13, 19, 31-34;
   16.4 (p. 1101) #1, 7*, 13, 17, 19*, 23, 27, 29.

April 11: 16.5 (p. 1109) #1, 3*, 7, 13, 15, 19, 25, 33, 35.
   16.6 (p. 1120) #5, 13-18, 23, 33*, 41, 43*, 45, 59c, 63.

April 18: 16.7 (p. 1132) #5, 7*, 13, 19, 23*, 31, 45;
   16.8 (p. 1139) #1, 5*, 7, 9, 15, 17.

April 25: 16.9 (p. 1145) #1, 3, 5*, 7, 9*, 11, 12, 17*, 23, 25, 27.

May 2: Ch. 16 Review Exercises (p. 1149) #3, 5, 9, 11, 13, 17, 19, 23, 27, 29, 31, 33, 35, 37, 41. **Problems Plus** (p. 1151) #3.

   Quizzes: 20 points each, best 8 of 10 quizzes. Problems will be similar to assigned homework problems. Thursdays: January 26, February 2, February 9, February 23, March 2, March 23, March 30, April 6, April 20, and April 27. No makeup quizzes!

   Midterm Exams: 150 points each, in your discussion section. If you have to miss a midterm, you **must** let your TA know in advance!

   I. Thursday, February 16: Sections 12.4–6, 14.1–6.

   II. Thursday, March 9: Sections 14.7–8, 15.1–5.

   III. Thursday, April 13: Sections 15.6–9, 16.1–4.

   Final Exam: 300 points. Monday, May 8, 1:30–4:30 PM, room Smith Hall 100. Covers chapters 12, 14, 15 and 16 of the text, plus pp. 861-863 from ch. 13.

   Course Total: 90 Homework + 160 Quizzes + 450 Midterms + 300 Final = 1000 points.