Homework assignments, MTH254H

only turn in the blue problems

Week 1 (January 12-16)

Assignment 1M (due on Wednesday):
1. Read Read section 1.1 and section 1.2 until page 9.
2. page 6 problems **1(e),(f),(h), 4, 9 and 10**.

Assignment 1W (problems not collected):
1. Read section 1.2 from page 9 to page 12.
2. pages 14/15 problems 14, 17, 18
3. Read Section 1.3
4. pages 22/23 problems 1(a),(d),(e), 5, 6, 8

Assignment 1F (due on Monday):
1. Read section 1.4 from page 23 to page 36 (not including the sections on the transpose)
2. page 38 and after problems **1(a),(c),(e),(f),(i),(j), 2, 3, 8(a),(c), 15, 20**

Week 2 (January 19-23)

Assignment 2W (problems not collected)
1. read sections 2.1 and 2.2 until page 65
2. page 61 problems 1, 2, 9, 11

Assignment 2F (due on Monday)
1. read section 2.2 page 66-70
2. page 70 problems **(1a,e,k)**, **(4)**, (5), **(6)**, (7), (8), **(9a)**

Week 3 (January 26-30)
Assignment 3M (due on Wednesday):
1. Read section 2.3 pages 72-75.
2. page 78 problems **1, 3, 8(a, g, h, j)**.

Assignment 3W (problems not collected):
1. Read section 2.3 from page 75 to page 78.
2. pages 78 problems 5, 7, 9, 12, 13, 14

Assignment 3F (due on Monday):
1. Read sections 3.1 and 3.2 until page 89 ending with example 1
2. page 85 problems **(1b,e), (4), (5), (9), (13)**
3. page 95 problem problem **1(b,d,e)**

Week 4 (February 2-6)

Assignment 4M (due on Wednesday):
1. Read section 3.2 examples 2-5.
2. page 95 problems (3a,b,d), (6), **(11a,c), (14),** (15)**, (16)**, **(17)**

Assignment 4W:
1. Read section 3.2 example 6 to page 95.

Assignment 4F (due on Monday):
1. Read section 3.3
2. page 102 problems (3), **(10),** (12), **(16)**
3. Read pages 48/49 for the definition of the cross product

Week 5 (February 9-13)

Assignment 5M (due on Wednesday):
1. Read section 3.4.
2. page 106 problems **(1c), (2c), (11), (12)**

Assignment 5W (problems not collected):
1. Read section 3.5 until example 2.
2. page 117 problems (1), (2), (4), (7d)

Assignment 5F (due on Monday):
1. Read section 3.5 from page 115 to the end
2. Read section 3.6
3. page 117 problem **8(b,c)**
4. page 124 problems **(1), (2a,d), (4), (7)**

Week 6 (February 16-20)

Assignment 6M (due on Wednesday):
1. Read section 4.1 until example 4 on page 134
2. page 143 problems **3(a)**, 4(b)
3. Read section 4.5
4. page 193 problems **(2a-d)**, (6), **(7)**, **(9)**
   (problems 6 and 11 have solutions in the back, look at them and at example 3 to get some guidance for the other problems. The **rank of a matrix** is the number of pivots of one of its echelon forms. An m x m matrix is called **singular** if it has rank less than m.)

Assignment 6W (problems not collected):
1. Page 193 problem 11, 13
2. Read section 5.1 until example 1.
3. page 201 problems 1(g,h,i)2, 8, 13

Assignment 6F (due on Monday):
1. Read section 5.1 from page 197 to the end on page 201.
2. page 201 problems **9, 10, 12**

Week 7 (February 23-27)

Assignment 7M (due on Wednesday):
1. Read section 5.2
2. page 207 problems **(1f,j), (3),** **(6), (7), (9), (11)**

Assignment 7W (problems not collected):
1. No problems assigned due to exam on Thursday, February 26

Assignment 7F (due on Monday):
1. Read section 3.5
2. page 215 problems **(2), (4), (5).** Also problem **(1)** related to (1f,j) from the previous homework

Week 8 (March 2-6)

Assignment 8M (due on Wednesday):
1. Read section 6.1 up to page 248
2. page 249 problems **(2), (4), (6),** **(7)**

Assignment 8W (problems not collected):
1. Read section 6.1 page 248 to end of sections
2. Read section 6.2 up to the statement of the Inverse Function Theorem and Example 2
3. page 259, problems **(1d,e), (2)**

Assignment 8F (due on Monday):
1. Read section 6.2 up to the statement of the Implicit Function Theorem and also examples 3, 4
2. page 259 problems **(3a,e),** **(4), (8),** **(9), (11), (12)**

Week 9 (March 16-20)

Assignment 9M (due on Wednesday):
1. Read remainder of section 6.2 and section 6.3
2. page 249 problems **(1),** **(6), (8),** **(12)**

Assignment 9W (problems not collected):
1. page 249 problems **(9), (10)**
2. Read section 7.1 until page 269

Assignment 9F (due on Monday):
1. Read section 7.1 from page 270
2. Read Theorem 1.4 and its proof on page 200. Understand the difference between continuity and uniform continuity.
3. Page 274 problems **(2), (8), (9), (10), (12)**

Week 10 (March 23-27)

Assignment 10M (due on Wednesday):
1. Read section 7.2 until theorem 2.3
2. page 285 problems **(1b,d), (20), (22)**

Assignment 10W (problems not collected):
1. Read remainder of section 7.2
2. page 285 problems **(2a,d,e), (8b,c), (12b)**

Assignment 10F (due on Monday):
1. Read section 7.3
2. page 297 problems **(9), (11), (15), (16)**

Week 11 (March 30-April 3)

Assignment 11M (due on Wednesday):
1. Read section 7.5 until page 318 for a quick crash course on determinants, before that also read section 4.2 until example 1
2. page 321 problems **(1a,b), (2), (5), (11), (12)**
3. **do problem 2 on p.334 –** you don't need to write down the solution

Assignment 11W (problems not collected):
1. Read examples for the Change of variables theorem beginning on page 329
2. page 331 problems **(3), (9), (11)**
3. Read section 8.2.1 (until page 339)

Assignment 11F (due on Monday):
1. Read section 8.2 until page 343 (including example 6)
2. page 345 problems **(2), (4b, d), (6a, b, c), (7a, d), (8a, b, c), (14)**

Week 12 (April 6-10)

Assignment 12M (due on Wednesday):
1. Read section 8.2 pages 344 & 345
2. page 346 problems **(11a,e), (16), (20)**
3. Read section 8.3 until page 351

Assignment 12W (problems not collected):
1. Read section 8.3 until page 353

Assignment 12F (due on Monday):
1. Read section 8.3 until page 357 (including example 6)
2. page 362 problems **(3a), (6a, b), (8), (10a, c)** compute the integrals in #10a,c without Green's theorem

Week 13 (April 13-17)

Assignment 13M (due on Wednesday):
1. Read the rest of section 8.3
2. page 346 problem **(9)**
3. page 362 problem **(10a, c)** using Green's theorem, **(18)**

Assignment 13W (problems not collected):
1. Read section 8.4 until page 371

Assignment 13F (due on Monday):
1. Read section 8.4 until example 6
2. page 376 problems **(2), (10), (11),** **(23)**, **(24)**

Week 14 (April 20-24)

Assignment 14M (due on Wednesday):
1. Read section 8.5 until and including theorem 5.1

Assignment 14W (problems not collected):
1.

<u>Assignment 14F (due on Monday):</u>
1. Read section 8.5 until page 386

<u>Week 15 (April 27-May 1)</u>

<u>Assignment 15M (due on Wednesday):</u>
1. Read the rest of section 8.5
2. page 390 problems **(4), (6),** **(8), (10), (11), (20)**