**CM1015 Computational Mathematics Reading List 2021 April**

Textbooks used and abbreviation:

Foundation Maths. Croft, A. and R. Davison 6th (C), Number theory for computing. Yan, S.Y. 2nd (Y), Precalculus with limits. Larson, R. 4th (L), Mathematics for computer graphics. Vince 2nd (V), Linear Algebra step by step. Kuldeep Singh (K).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week # | Topic | Chapter | Pages | Exercise |
| 1 | Number bases | Ch 14 (C) | p.154-164 | SA&EX: 14.2, 14.3, 14.4, CH14 |
| 2 |  | | |
| 3 | Sequences and Series | Ch 12 (C) | p.126-140 | SA&EX: 12.2, 12.3, 12.4, 12.6 |
| 4 |  | | |
| 5 | Modular arithmetic | Ch1.2.2 (Y)  Ch1.6 (Y) | p. 21-27  p.111-127 | N/A |
| 6 |  | | |
| 7 | Angles, Triangles and Trigonometry | Ch 22 (C) | p.271-278 | SA&EX: 22.1, EX: 22.2, TAE: 22. |
| 8 |  | | |
| 9 | Graph Sketching and Kinematics | Ch 17 (C)  Ch 1.1-1.8 (L) | p.189-210  p.2-83 | SA&EX: 17.2, EX: 17.3 (3, 5-6)  N/A |
| 10 |  | | |
| 11 | Trigonometric functions | Ch 23 (C)  Ch 24 (C) | p.279-291  p.292-304 | SA&EX: 23.1, 23.2, CH: 23, TAE: 23.  EX: 24,1 (1-3, 6, 12) |
| 12 |  | | |
| 13 | Exponential and logarithmic functions | Ch 19 (C)  Ch 20 (C) | p.224-232  p.233-250 | EX: 19.1, SA&EX: 19.2.  SA&EX: 20.1, EX: 20.2, 20.3 (1-3), 20.5. |
| 14 |  | | |
| 15 | Calculus: limits and differentiation | Ch 34 (C)  CH 35 (C)  Ch 12 (L) | p.434-450  p.451-461  p.813-861 | SA&EX: 34.2, 34.3, 34.4, EX: 34.5 (1-2, 4).  SA&EX: 35.2, 35.3.  12.1 (5-10, 23, 41-42). |
| 16 |  | | |
| 17 | Algebra: Vectors, Matrices and Linear Transformations | Ch 26 (C)  Ch 7.2 (V) | p.322-336  p.53-56 | SA&EX: 26.1, 26.3, 26.5, EX: 26.2.  N/A |
| 18 | Ch 8.1-4 (L)  Ch 1.1-1.2 (K)  Ch 3.2.2 (K)  Ch 27 (C) | p.537-581  p.1-26  p.208-210  p.337-351 | N/A  N/A  N/A  EX: 27.1, SA&EX: 27.2, 27.3, 27.4. |
| 19 | Combinatorics and Probability | Ch 30 (C)  Ch 31 (C)  Ch 9.6-9.7 (L) | p.388-402  p.403-411  p.652-673 | EX: 30.2, 30.3.  EX: 31.2, 31.3, 31.4.  N/A |
| 20 |  | | |