

Biomathematics Homework Assignments

(I) indicates individual assignment; (G) indicates problem may be done in group of 1 or 2 students
Please turn in group assignments stapled separately from individual assignments, and Lab separate from HW.

No short answers! All answers must come with explanation,
and in most cases, the explanation should involve a mathematical analysis or computation,
rather than just an opinion of what you think should happen

- Due 9/10
 - Do, but do not turn in:
 - * Read Ch 1 Sec I-IV.
 - * Book 1.1 - 1.3.
 - * Lab 1.1 - 1.7 (for 1.7 save table and graph with Snipping Tool (Windows) and print to PDF file, or Screenshot Alt-Shift-4 (Mac); open and save as PDF)
 - Book (I): Handout: 3 (show work finding explicit solution), 9
 - Lab (I): Lab 1.7 print out table and graph
 - Book (G): None
 - Lab (G): None
- Due 9/12
 - Do: Read Ch 1 Sec V-VII. Lab 1.9-1.14
 - Book (I):
 - * Solve Logistic Model (find solution function – note solution in book has error).
 - * 1.3 (base answer on the graph & this model only – not on a comparison to other models you prefer!)
 - * 1.5 (explain based on mathematical analysis of the model),
 - * 1.6 (explanation includes doing mathematics on the solution)
 - Lab (I): 1.10 (typed in \LaTeX – include tables / graphs), 1.13 (Sweden, cts only)
 - Book (G): None
 - Lab (G): None
- Due 9/19
 - Do: Read Ch 1 Sec VIII-X. Lab 2.1-2.11; 2.12-2.17
 - Book (I): Solve Logistic Model. Book 1.10 (again, based on mathematical analysis), 1.12, 1.14
 - Lab (I): 2.14, 2.16
 - Book (G)
 - Lab (G): 2.8, 2.9, Extra Credit: 2.11 (typed as mini report, with tables / graphs included in \LaTeX doc)
- Due 9/26
 - Do: Read Ch 2 Sec I,II, Book 1.18 Lab 3.1-3.6, 3.11, 3.14, 3.15, 4.1
 - Book (I): 1.17, 1.19
 - Lab (I): 3.5 as \LaTeX report (note in part (a), p should be r)
 - Book (G): Book 2.1, 2.2
 - Lab (G): Lab 3.14 and 3.15 written as report; extra credit if written in \LaTeX

- Due 10/3
 - Do: Read Ch 2 Sec III, IV, V; Read Lab 4; Do Lab 4.2 - 4.17
 - Book (I): 2.6
 - Lab (I): 4.3, 4.4, 4.5
 - Book (G): 2.8 (students who have had Math 360 write formal proof, others give reasonable explanation)
 - Lab (G): 4.6, 4.7, 4.8 (4.8 in L^AT_EX)
- Due 10/10
 - Do: Read Ch 2 Sec VI; Read Lab 5; Do Lab 4.9 - 4.17, 5.1-5.4
 - Book (I): 2.9, 2.11, 2.12 (also, calculate $\det(J)$ and $\text{trace}(J)$ to classify eq point A)
 - Lab (I): 4.9, 4.12
 - Book (G)
 - Lab (G): 4.15, 4.16, 4.17, 5.2, 5.3, 5.4
- Due 10/17
 - Do: Read Ch 2 Sec VII, Ch 3 Sec I; Do Lab 5.5-5.12.
 - Book (I):
 - Lab (I):
 - Book (G): 2.13, 2.18
 - Lab (G): 5.5, 5.6, 5.7, 5.8, 5.10, 5.11, 5.12
- Due 10/24
 - Do: Read Ch 3 Sec II, III
 - Book (I): 3.1, 3.2
 - Lab (I): 6.1, 6.2, 6.3
 - Book (G):
 - Lab (G):
- Due 10/31
 - Do: Read Ch 3 Sec VI; Ch 4 all
 - Book (I):
 - Lab (I): 6.4, 6.5
 - Book (G): 3.3, 3.4, 3.6
 - Lab (G):
- Due 11/9 2:30 under my office door
 - Do: Read Ch 5 I-VIII
 - Book (I):
 - Lab (I): 7.1, 7.2, as L^AT_EX report. Clearly state H_0 and H (formula & words); include relevant screenshots.
 - Book (G):
 - Lab (G):

- Due 11/14
 - Do: Read Ch 5 IX-X
 - Book (I): 5.1, 5.2
 - Lab (I): 7.3
 - Book (G):
 - Lab (G): 8.1, 8.2, 8.4
- Due 11/19 (or 11/20 at 11am under my door at the latest) [This is final assignment for this week](#)
 - Do: Read Chapter 6 I-VII
 - Book (I): Look through chapter titles / skim chapters, and especially see page x of Preface, to suggest 1 or 2 chapters you're interested in learning about
 - Lab (I):
 - Book (G): 5.3, 5.5
 - Lab (G): 8.5, 8.6
- Due 11/28
 - Do: Read Chapter 6 (rest)
 - Book (I): 6.5, 6.6,
 - Lab (I): 9.1, 9.2, 9.3, 9.4, 9.5
 - Book (G):
 - Lab (G): 8.7, as LaTeX report (you should include relevant data / tables from 8.5 and 8.6)
- Due 12/5
 - Do:
 - Book (I): 6.9
 - Lab (I): 9.9, 9.10, 9.11
 - Book (G):
 - Lab (G):
- Due 12/12
 - Do:
 - Book (I):
 - Lab (I):
 - Book (G):
 - Lab (G):