Suggested exercises from Calculus: Early Transcendentals $3^{\text {rd }}$ edition by Briggs, Cochran Gillett

| Section |  | Recommended problems (odds unless stated otherwise) |
| :---: | :---: | :---: |
| 12.1 | Parametric Equations | $\begin{aligned} & 11-23,27-31,35-45,51,53,67,69,73-83, \\ & 87,89,91 \end{aligned}$ |
| 12.2 | Polar Coordinates | 9-19, 23-47, 55, 57, 61, 69, 71, 77 |
| 12.3 | Calculus in Polar Coordinates | $\begin{aligned} & 11,15,21,25,29-37,41,43,51,57,61,65, \\ & 69,75 \text { a\&b } \end{aligned}$ |
| 12.4 | Conic Sections | $\begin{aligned} & 13,17,21,25,29,35,37,41,43,49,51,53, \\ & 55,57,61,69,73 \\ & \hline \end{aligned}$ |
| 13.1 | Vectors in the Plane | 5, 7, 13-19, 23-27, 31-55, 61, 65, 69, 87 |
| 13.2 | Vectors in Three Dimensions | $\begin{aligned} & 9-13,19,27-39,43,45,49,51,53,61-69,73, \\ & 76,82 \end{aligned}$ |
| 13.3 | Dot Product | 13-21, 25-29, 35-47, 51, 53, 63, 65, 69, 85 |
| 13.4 | Cross Product | 11, 21-35, 43, 45, 58, 62 |
| 13.5 | Lines and Planes in Space | 1, 11-35, 39, 43, 45, 49-53, 65, 67, 73, 79, 81 |
| 13.6 | Cylinders and Quadric Surfaces | $\begin{aligned} & 7,11,15-19,29,33,37,41,53,55,57,59, \\ & 62,63 \end{aligned}$ |
| 14.1 | Vector-Valued Functions | 11, 13, 31-35, 39-45, 47, 55 |
| 14.2 | Calculus of Vector Valued Functions | 9-25, 29-41, 53-75 |
| 14.3 | Motion in Space | $13,15,21,23,35,39,41,45,47,49,51,53$ |
| 14.4 | Length of curves | $13-25,43$ a \& b |
| 14.5 | Curvature and Normal Vectors | 15, 17, 23, 25, 29, 35, 39,45 |
| 15.1 | Graphs and Level Curves | 15, 17, 19, 21, 23, 35, 37, 57 |
| 15.2 | Limits and Continuity | 13-29, 33, 35, 39, 41, 45, 49-55, 59, 63, 79 |
| 15.3 | Partial Derivatives | 3, 11, 13, 15, 19, 23-27, 33 |
| 15.4 | Chain Rule | $\begin{aligned} & 11,15,21,23,27,29,33,35,39,49,51,53, \\ & 57,61,63 \end{aligned}$ |
| 15.5 | Directional Derivatives and the Gradient | $\begin{aligned} & 11,13,17,19,23,29,31,33,35,37,39,49, \\ & 53,61,65,67,69 \end{aligned}$ |
| 15.6 | Tangent Planes and Linear Approximation | $\begin{aligned} & 11,15,17,21,25,27,29,31,35,37,39,51 a \text {, } \\ & 55 \end{aligned}$ |
| 15.7 | Maximum/Minimum Problems | 9, 11, 17, 21, 25, 27, 37, 43, 47, 51, 55, 63-67 |
| 15.8 | Lagrange Multipliers | 7, 9, 17 |
| 16.1 | Double Integrals over Rectangular Regions | $\begin{aligned} & 9,13,17,19,27,31,37,41,43,47,49,51 \text {, } \\ & 59 \end{aligned}$ |
| 16.2 | Double Integrals over General Regions | $\begin{aligned} & 11,19,27,29,33,39,41,45,47,55,61,63, \\ & 69,71,75,85,89,91 \\ & \hline \end{aligned}$ |
| 16.3 | Double Integrals in Polar Coordinates | $\begin{aligned} & 11,13,17,19,21,27,29,31,41,43,45,49, \\ & 55 \end{aligned}$ |
| 16.4 | Triple Integrals | $\begin{aligned} & 7,9,13,17,25,27,31,35,37,41,45,47,49, \\ & 51,55 \text { a \& b } \end{aligned}$ |


| 16.5 | Cylindrical and Spherical Coordinates | $15,17,19,25,27,31,41,45,51,59$ |
| :--- | :---: | :--- |
| 16.6 | Integrals for Mass Calculations | $11,19,21,25,29,33,37,39 \mathrm{a} \& \mathrm{~b}$ |
| 17.1 | Vector Fields | $24,27,31,35,37$ |
| 17.2 | Line Integrals | $17,19,25,27,31,41,43,51,57,59$ |
| 17.3 | Conservative Vector Fields | $13,15,19,21,23,31,33,35,39,45,51,57$ |
| 17.4 | Green's Theorem | $31,33,39$ |
| 17.5 | Divergence and Curl | $11,13,27,33$ |

