

ELEMENTS OF GEOMETRY

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PROGRAM

- (1) Curves
- (2) Plane and space curves
- (3) Surfaces
- (4) Tangent planes
- (5) The first fundamental form
- (6) More on the first fundamental form
- (7) Area
- (8) Smooth maps, the Gauss map, orientability
- (9) The derivative of a map
- (10) Conformal maps
- (11) Weingarten map and second fundamental form
- (12) Curvature
- (13) Normal curvature
- (14) Theorema egregium
- (15) Geodesics
- (16) Gauss–Bonnet
- (17) Geodesical coordinates
- (18) Minimal surfaces
- (19) CMC surfaces

REFERENCES

- [1] L. M. WOODWARD and J. BOLTON, *A First Course in Differential Geometry*, Cambridge University Press, 2019.