In the beginning there was geometry.

c. 450BC Hippocrates squares some lunes and writes his *Elements*

c. 360BC Eudoxus makes a better theory of proportions

c. 300BC Euclid codifies geometry in his *Elements*

c. 250BC Archimedes writes *On the Sphere and Cylinder*

c. 200BC Apollonius writes *Conic Sections*

1220 Fibonacci’s *Practicæ Geometriæ*

1435 Battista publishes the first work on perspective

1484 della Francesca publishes the major work on perspective

1525 Dürer publishes the most mathematical work on perspective

1569 Mercator’s projection and map

1629 Fermat writes on coordinate geometry

1637 Descartes publishes his coordinate geometry

1639 Desargues on projective geometry

1640 Pascal’s *Essay on Conics*

1655 Wallis translates Apollonius into Latin and coordinates

1673 Huyghens introduces involutes and treats evolutes in coordinates

1685 La Hire’s *Sectiones Conicæ* on projective geometry
1698 Ja. Bernoulli finds geodesics on cylinders, cones, and surfaces of revolution
1717 Stirling provides proofs about cubic curves
1720 Maclaurin introduces genus for plane curves and founds intersection theory
1728 Euler gives differential equations for geodesics on a surface
1729 Hermann does polar coordinates
1731 Clairaut systematizes space coordinate geometry, launches study of space curves
1739 Clairaut does geodesics on surfaces of revolution in full
1760 Euler establishes theory of surfaces
1764 Bezout almost completes computation of multiplicities
1766 Lambert proves existence of a non-euclidean geometry
1771 Monge studies space curves and associated surfaces
1772 Lambert treats conformal maps of sphere to plane in full
1775 Euler treats skew curves in full
1776 Monge characterizes ruled surfaces
1776 Monge studies congruences of lines
1781 Kant “proves” in his Critique of Pure Reason that Euclidean geometry is an a priori synthetic truth
1785 Meusnier studies curvature of plane sections of surfaces
1795 Monge begins 3-dimensional differential geometry
1799 Gauß first doubts the uniqueness of Euclidean geometry
1802 Monge on sections of surfaces
1806 Lancret formulates torsion for space curves
1813 Dupin creates a conic approximation to a surface, studies orthogonal families of surfaces

1816 Schweikart finds a noneuclidean geometry

1817 Gauß’s doubts become assured

1818 Schweikart sends his work to Gauß

c. 1820 Bolyai begins exploring a strange, new geometry

c. 1826 Lobachevsky begins exploring a strange, new geometry

1829 Lobachevsky publishes in Russian

1832 Bolyai publishes in Latin

1837 Lobachevsky publishes in French

1854 Riemann gives his inaugural lecture at Göttingen—he presents an infinity of new geometries, those now called metric geometries

1872 Klein gives his inaugural lecture at Erlangen—he enlarges the world of geometries yet again in another major way, declaring that a geometry is the study of those properties which are preserved by a (global) group of transformations, in any space, whether metric or not

1894 Bianchi names differential geometry

1905 special relativity provides the first application of indefinite metric geometry

1916 general relativity makes the application decidedly nontrivial

1918 Weyl generalizes metric geometry to connection geometry

c. 1922 Cartan elucidates connections, introduces holonomy

1950 Ehresmann introduces principal connections, brings ideas of Klein back locally

by 1980 all fundamental physical interactions (forces) are expressed with principal connections