**Study Plan**

Week 1:

Day 1-2:

* Study Chapter 1 of "Linear Algebra and Its Applications" by Gilbert Strang, focusing on systems of linear equations and matrices.
* Supplement your reading with online videos from Khan Academy and MIT OpenCourseWare on linear systems and matrices.
* Solve practice problems related to solving linear systems and matrix operations.

Day 3-4:

* Study Chapter 2 of Strang's book, covering vector spaces, linear independence, and basis.
* Watch online videos on vector spaces and linear independence from Khan Academy and 3Blue1Brown.
* Practice solving problems related to vector spaces, linear combinations, and linear independence.

Day 5-6:

* Study Chapter 3 of Strang's book, which deals with analytic geometry, norms, inner products, lengths, distances, angles, and orthogonality.
* Supplement your learning with online videos from Khan Academy on vector norms and inner products.
* Solve practice problems related to norms, distances, and orthogonality in analytic geometry.

Weekend:

* Review the concepts covered in Week 1.
* Solve additional practice problems from your textbook or online resources.

Week 2:

Day 1-2:

* Study Chapter 4 of Strang's book, focusing on determinants, traces, eigenvalues, eigenvectors, and the Cholesky decomposition.
* Watch online videos on determinants, eigenvalues, and eigenvectors from Khan Academy and MIT OpenCourseWare.
* Practice solving problems related to determinants, eigenvalues, and eigenvectors.

Day 3-4:

* Study Chapter 5 of Strang's book, covering eigen-decomposition, diagonalization, singular value decomposition (SVD), and matrix approximation.
* Supplement your learning with online videos on SVD and matrix approximation from Khan Academy and 3Blue1Brown.
* Solve practice problems related to eigen-decomposition, SVD, and matrix approximation.

Day 5-6:

* Study vector calculus topics from "Advanced Engineering Mathematics" by Erwin Kreyszig, focusing on differentiation of univariate functions, partial differentiation, gradients, and gradients of vector-valued functions.
* Watch online videos on vector calculus from Khan Academy and MIT OpenCourseWare.
* Practice solving problems related to vector calculus and gradients.

**Online Videos**

Week 1:

Day 1-2:

* Khan Academy: Linear Algebra - Systems of Equations and Matrices: <https://www.khanacademy.org/math/linear-algebra/matrix-transformations/matrix-vector-products/v/linear-algebra-introduction-to-matrices>
* MIT OpenCourseWare: Linear Algebra - Lecture 1: The Geometry of Linear Equations: <https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/video-lectures/lecture-1-the-geometry-of-linear-equations/>

Day 3-4:

* 3Blue1Brown: Essence of Linear Algebra - Vectors, what even are they?: <https://www.youtube.com/watch?v=fNk_zzaMoSs>
* MIT OpenCourseWare: Linear Algebra - Lecture 2: Elimination with Matrices: <https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/video-lectures/lecture-2-elimination-with-matrices/>

Day 5-6:

* Khan Academy: Linear Algebra - Vectors and Spaces: <https://www.khanacademy.org/math/linear-algebra/vectors-and-spaces>
* MIT OpenCourseWare: Linear Algebra - Lecture 3: Multiplication and Inverse Matrices: <https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/video-lectures/lecture-3-multiplication-and-inverse-matrices/>

Weekend:

* 3Blue1Brown: Essence of Linear Algebra - Linear transformations and matrices: <https://www.youtube.com/watch?v=kYB8IZa5AuE>
* MIT OpenCourseWare: Linear Algebra - Lecture 4: Factorization into A = LU: <https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/video-lectures/lecture-4-factorization-into-a-lu/>

Week 2:

Day 1-2:

* Khan Academy: Linear Algebra - Eigenvalues and Eigenvectors: <https://www.khanacademy.org/math/linear-algebra/alternate-bases/eigen-everything/v/linear-algebra-introduction-to-eigenvalues-and-eigenvectors>
* MIT OpenCourseWare: Linear Algebra - Lecture 5: Transposes, Permutations, Spaces R^n: <https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/video-lectures/lecture-5-transposes-permutations-spaces-rn/>

Day 3-4:

* 3Blue1Brown: Essence of Linear Algebra - Determinants: <https://www.youtube.com/watch?v=Ip3X9LOh2dk>
* MIT OpenCourseWare: Linear Algebra - Lecture 6: Column Space and Nullspace: <https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/video-lectures/lecture-6-column-space-and-nullspace/>

Day 5-6:

* Khan Academy: Multivariable Calculus - Vector Calculus: <https://www.khanacademy.org/math/multivariable-calculus>