# Mathematics for AI

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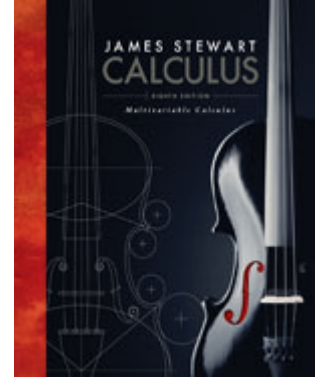adamskong@ntu.edu.sg

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# Textbooks

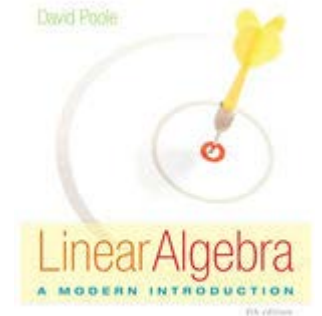▸ James Stewart, Multivariable Calculus, 8th Edition, 2016. Link to loan eBook from NTU Library :
https://ntu.vstbridge.com/#/book-details/9781305804425

▸ David Poole, Linear Algebra: A Modern Introduction , 4th Edition, 2015. Link to loan eBook from NTU Library :
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# References

Advanced Engineering Mathematics 8th Edition
Peter V. O'Neil
ISBN-13: 9781305635159 | ISBN-10: 1305635159
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College Algebra 12th Edition
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Elementary Linear Algebra 8th Edition
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Advanced Engineering Mathematics, SI Edition 8th Edition
Peter V. O'Neil
ISBN-13: 9781337274524 | ISBN-10: 1337274526
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Elementary Linear Algebra, International Metric Edition 8th Edition
Ron Larson
ISBN-13: 9781337556217 | ISBN-10: 1337556211
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**Multivariable Calculus: Concepts and Contexts , 4th Edition** James Stewart
ISBN-10: 0-495-56054-5
ISBN-13: 978-0-495-56054-8

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# Quiz and Exam

▸ Quiz 1: 35% (Week 8, 7 Oct 2021 (Thursday), 1.5 hours)

▸ Quiz 2: 35% (Week 14, 18 Nov 2021 (Thursday), , 2 hours)

▸ Assignment: 30% (21 Nov 2021,11.59pm)

# Online Materials

- All lecture notes

- Related lecture notes of CZ1011 and CZ1012

- Tutorial questions

- Labs

# Topics

- Note 1: Vector, line and plane
- Note 2: Limits. Continuity, partial derivatives, tangent Planes and Approximation
- Note 3: Chain-rule and directional derivatives
- Note 4: Matrix Calculus
- Note 5: Optimization
- Note 6: Linear System
- Note 7: Matrix
- Note 8: Eigenvalues and eigenvectors
- Note 9: Vector space

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