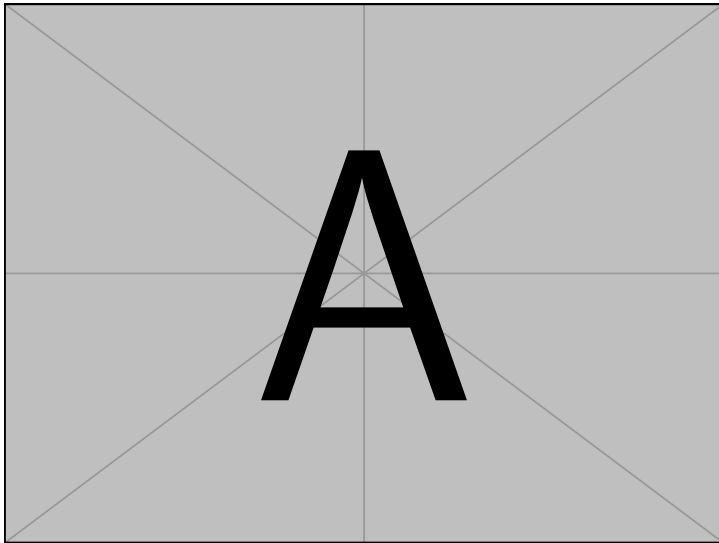


*CEE384—Numerical Methods*

# Integration

*Numerical Integration*



ARIZONA STATE UNIVERSITY

*Brian Chevalier*

Updated: October 27, 2019

## Contents

1	Trapezoidal Rule	1
2	Simpson's Rule	1
	References	1

## 1 Trapezoidal Rule

$$\int_a^b f(x) \approx \frac{\Delta x}{2} \left[ f(a) + \sum_{i=1}^{i \leq n-1} 2f(i\Delta x) + f(b) \right] \quad (1)$$

## 2 Simpson's Rule

## References

- [1] Chapra, Steven C. and Canale, Raymond P., *Numerical Methods for Engineers*, 7th ed. McGraw Hill Education, 2015.
- [2] A. K. Kaw, E. E. Kalu, and D. Nguyen. Numerical methods with applications. [Online]. Available: [http://nm.mathforcollege.com/topics/textbook\\_index.html](http://nm.mathforcollege.com/topics/textbook_index.html)