Table of Contents

- Preface
- About the Authors
- Acknowledgments
- Chapter 1 Introduction to Architectural Acoustics and Basic Principles William J. Cavanaugh
- 1.1 Introduction
- 1.2 Basic Concepts
- 1.3 Design Criteria
- 1.4 Selected Standards in Building Acoustics
- References and Further Reading
- Case Study: Fogg Art Museum Lecture Hall, Harvard University (1895--1973): The Beginnings of Modern Architectural Acoustics
- Case Study: A Timeline of Some Significant Events in Architectural Acoustics since Sabine's Pioneering Work at the Fogg Museum Lecture Hall
- Chapter 2 Acoustical Materials and Methods Rein Pirn and Jeffery L. Fullerton
- 2.1 Introduction
- 2.2 Sound Attenuation
- 2.3 Sound Absorption
- 2.4 Common Building Materials
- 2.5 Acoustical Materials
- 2.6 Special Devices
- 2.7 Performance Table
- References and Further Reading
- Selected Web Resources
- Case Study: Duke University Chapel: A Lesson on Acoustical Materials
- Case Study: Boston Waterfront Development Under a Flight Path: Sound Isolating Façade Constructions to Reduce Intrusive Noise
- Case Study: Berklee College of Music: Sound Isolating Constructions between Percussions Studios
- Chapter 3 Building Noise Control Applications Gregory C. Tocci
- 3.1 Introduction
- 3.2 Acoustical Analysis
- 3.3 Standards Organizations for the Building Industry
- 3.4 Overview of Building Noise Control Design
- References and Further Reading
- Case Study: Mechanics Hall, Worcester, Massachusetts: Cooling Tower Sound Isolation
- Case Study: Field Impact Insulation Class (FIIC) Rating Measurements of Condominium Floor/Ceiling Construction
- Case Study: Noise Insulation Class (NIC) Rating Measurements of a Hotel Guestroom Door
- Case Study: 500 Atlantic Avenue Hotel/Condominium Building Vibration Isolation
- Chapter 4 Acoustical Design: Places for Listening L. Gerald Marshall
- 4.1 Introduction

- 4.2 Sound Outdoors and Transition to Indoor Acoustics
- 4.3 Concert Halls and Recital Halls
- 4.4 Opera Houses, Theaters, General-Purpose Auditoria, and Worship Spaces
- 4.5 Other Places for Speech and Music Activities
- References and Further Reading
- Case Study: Holy Cross Church, Dewitt, New York
- Case Study: Mitchell Hall at the University of Delaware, Newark, Delaware--Historic Renovation
- Case Study: The New Hitchcock Presbyterian Church, Scarsdale, New York
- Case Study: Katherine M. Elfers Concert Hall at the Esther Eastman Music Center, Hotchkiss School, Lakeville, Connecticut
- Case Study: Ozawa Hall, Tanglewood Music Center, Lenox, Massachusetts
- Case Study: Hollywood Bowl Stage Redesign, Los Angeles, California
- Chapter 5 Sound Systems Matthew J. Moore
- 5.1 Introduction
- 5.2 Loudspeaker Systems
- 5.3 Equipment
- 5.4 Examples of Sound Reinforcement and Reproduction Systems
- 5.5 Special Sound System Installations
- References and Further Readings
- Case Study: Hanover Theatre, Worcester, Massachusetts
- Case Study: Agganis Arena and Boston University Fitness and Recreation Center, Boston, Massachusetts
- Case Study: Ave Maria University Oratory, Ave Maria, Florida
- Case Study: University of Connecticut, Storrs, Connecticut
- Case Study: Rhode Island Senate Chamber, Providence, Rhode Island
- Case Study: Northfield Mount Hermon School Rhodes Arts Center, Northfield, Massachusetts
- Case Study: Tufts University Granoff Music Center, Medford, Massachusetts
- Case Study: Jay Pritzker Music Pavilion, Chicago, Illinois
- Chapter 6 Recent Innovations in Acoustical Design and Research Gary W. Siebein and Bertram Y. Kinzey, Jr.
- 6.1 Introduction
- 6.2 Understanding and Measuring Room Acoustic Qualities
- 6.3 Acoustical Modeling and Aural Simulation
- 6.4 Other Directions in Architectural Acoustics Research
- 6.5 Conclusions
- References and Further Reading
- Case Study: Segerstrom Hall, Orange County Performing Arts Center, Orange County, California
- Case Study: McDermott Concert Hall, Morton H. Meyerson Symphony Center, Dallas, Texas
- Case Study: Evangeline Atwood Concert Hall, Alaska Center for the Performing Arts, Anchorage, Alaska
- Case Study: Bass Performance Hall, Fort Worth, Texas
- Case Study: The Esplanade Concert Hall, Theaters on the Bay, Singapore

- Case Study: Tokyo Opera City Concert Hall: Takemitsu Memorial, Tokyo, Japan
- Case Study: Sound Focusing in a Small Conference Room
- Case Study: Reflected Sound and Reverberation in a Large Catholic Church
- Case Study: Effects of Multiple Sources on Room Response
- Case Study: Disney Concert Hall, Los Angeles, California
- Chapter 7 Sustainable Design and Acoustics Ethan Salter, LEED AP
- 7.1 Introduction
- 7.2 Organizations Leading the Green Building Movement
- 7.3 Acoustical Challenges of Green Design
- 7.4 Post-Occupancy Evaluations of Green Buildings
- 7.5 Examples of Building Types Designed for Green Ratings
- 7.6 Conclusion
- References and Further Reading
- Case Study: Global Ecology Research Center at Stanford University, Palo Alto, California
- Case Study: Dougherty Valley High School, San Ramon, California
- Case Study: Charles M. Salter Associates (CSA) Tenant Improvement Office, San Francisco, California
- Appendixes
- Appendix A Conversion Factors, Abbreviations, and Unit Symbols
- Appendix B Acoustical Societies throughout the World
- Appendix C Selection of an Acoustical Consultant
- Appendix D
- Glossary
- Index