

## SE EXAM STUDY GUIDE

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The following is a list of recommended books to help with studying for the SE exam. The list is organized first by Codes and Design Standards, then by books that cover multiple topics, and then alphabetically by specific loading and material topics. Additional suggestions for studying and organizing notes are included at the end of the list.

### CODES AND DESIGN STANDARDS

- *AASHTO LRFD Bridge Design Specifications*, 7<sup>th</sup> Edition, 2014, Publisher: American Association of State Highway & Transportation Officials (AASHTO)
- *IBC International Building Code*, 2015 Edition, Publisher: International Code Council (ICC)
- *ASCE 7-10 Minimum Design Loads for Buildings and Other Structures*, Publisher: American Society of Civil Engineers (ASCE)
- *ACI 318-14 Building Code Requirements for Structural Concrete*, Publisher: American Concrete Institute (ACI)
- *AISC Steel Construction Manual*, 14<sup>th</sup> Edition, Publisher: American Institute of Steel Construction (AISC)
- *AISC Seismic Design Manual*, 2<sup>nd</sup> edition, Publisher: AISC
- *AISI S100 North American Specification for the Design of Cold-Formed Steel Structural Members*, 2012 Edition, Publisher: American Iron and Steel Institute (AISI)
- *AISI S213 North American Specification for Cold-Formed Steel Framing – Lateral Design*, 2007 Edition with Supplement No. 1, October 2009 (reaffirmed 2012), Publisher: AISI
- *NDS National Design Specification for Wood Construction, ASD/LRFD*, 2015 Edition and National Design Specification Supplement, Design Values for Wood Construction, 2015 Edition, Publisher: American Wood Council (AWC)
- *NDS Special Design Provisions for Wind and Seismic with Commentary*, 2015 Edition, Publisher: AWC
- *TMS 402/602-13 Building Code Requirements and Specifications for Masonry Structures* (and related commentaries), 2013, Publisher: The Masonry Society (TMS)

### MULTIPLE TOPICS

- *16-Hour Structural Engineering (SE) Practice Exam for Buildings*, 3rd Edition, 2015, Author: Joseph S. Schuster, SE, PE with Simpson Gumpertz and Heger, Publisher: Professional Publications, Inc.
- *2015 IBC Structural/Seismic Design Manual Volume 1: Code Application Examples*, Publisher: SEAOC / ICC
- *2015 IBC Structural/Seismic Design Manual Volume 2: Examples for Light-Frame, Tilt-Up and Masonry Buildings*, Publisher: SEAOC / ICC
- *Six-Minute Solutions for Structural Engineering (SE) Exam Morning Breadth Problems*, 6th Edition, 2018, Christine Subasic, Publisher: Professional Publications, Inc.
- *Structural Engineering SE All-in-One Exam Guide Breadth and Depth*, Dave K. Adams, S.E., Publisher: McGraw Hill Education
- *SE Structural Engineering Buildings Practice Exam*, 5<sup>th</sup> Edition, Author: Joseph S. Schuster, Publisher: Professional Publications, Inc.
- *SE NCEES Structural Engineering Practice Exam*, 2017, Publisher: NCEES
- *Structural Engineering Reference Manual*, 9<sup>th</sup> Edition, 2017, Author: Alan Williams, Publisher: Professional Publications, Inc.
- *Structural Engineering Solved Problems for the SE Exam*, 7<sup>th</sup> Edition, 2017, Author: Dale Buckner, Publisher: Professional Publications, Inc.



National Council of Structural Engineers Associations

- *Structural Loads - 2012 IBC and ASCE / SEI 7-10, 2013*, Author: David Fanella, Publisher: NCSEA / ICC
- *Guide to the Design of Building Systems for Serviceability in Accordance with the 2012 IBC and ASCE 7-10*, Author: Kurt Swensson, Publisher: NCSEA / ICC

#### **ANALYSIS METHODS**

- *Structural Analysis*, 10<sup>th</sup> Edition, 2017, Author: R.C. Hibbeler, Publisher: Prentice Hall
- *Numerical Structural Analysis*, 2015, Authors: O'Hara and Ramming, Publisher: Momentum Press Engineering
- *Fundamentals of Structural Analysis*, 5<sup>th</sup> Edition, 2018, Authors: Leet, Uang, Lanning and Gilbert, 2010, Publisher: McGraw-Hill

#### **BRIDGE DESIGN**

- *Bridge Problems for the Structural Engineering SE Exam, 2<sup>nd</sup> Edition*, Author: David Connor, SE, Publisher, David Connor
- *Bridge Engineering*, 4<sup>th</sup> Edition, 2017, Authors: Zhao and Tonias, Publisher: McGraw-Hill
- *Bridge Design Aids*, 2008, Publisher: CALTRANS (downloadable .pdfs)
- *Moments, Shears and Reactions for Continuous Highway Bridges*, 1986, Publisher: AISC

#### **CONCRETE**

- *2015 IBC Structural/Seismic Design Manual Volume 3: Examples for Concrete Buildings*, Publisher: SEAOC / ICC
- *2015 IBC Structural/Seismic Design Manual Volume 2: Examples for Light-Frame, Tilt-Up and Masonry Buildings*, Publisher: SEAOC / ICC
- *Concrete Design for the Civil PE and Structural SE Exams*, 3<sup>rd</sup> Edition, 2017, Author C. Dale Buckner
- *Design of Concrete Structures*, 15<sup>th</sup> Edition, 2014, Authors: Darwin, Dolan, and Nilson, Publisher: McGraw-Hill
- *Reinforced Concrete: Mechanics and Design*, 7<sup>th</sup> Edition, 2015, Author: James K. Wight, Publisher: Prentice Hall
- *Seismic Design of Reinforced Concrete Buildings*, 2014, Author: Jack Moehle, Publisher: American Concrete Institute

#### **FOUNDATIONS / RETAINING STRUCTURES**

- *Soils, Earthwork and Foundations*, 1<sup>st</sup> Edition, 2016, Authors: Meyer and Read, Publisher, ICC
- *Principles of Foundation Engineering*, 9<sup>th</sup> Edition, 2018, Author: Braja M. Das, Publisher: CL Engineering
- *Foundation Analysis and Design*, 5<sup>th</sup> Edition, Author, Joseph E. Bowles, S.E., Publisher, McGraw-Hill
- *Foundation Design: Principals and Practices*, 3<sup>rd</sup> Edition, Author, Coduto, Kitch, and Yeung Publisher, Prentice Hall

#### **LOADS**

- *Structural Loads - 2012 IBC and ASCE / SEI 7-10*, Author: David Fanella, Publisher: NCSEA / ICC



# NCSEA

National Council of Structural Engineers Associations

- *Guide to the Design of Diaphragms, Chords, and Collectors: Based on the 2006 IBC and ASCE/SEI 7-05*, Authors: Badri K. Prasad, Douglas S. Thompson, Rafael Sabelli, Publisher: NCSEA / ICC
- *Guide to the Design of Out-of-Plane Wall Anchorage: Based on the 2006/2009 IBC and ASCE/SEI 7-05*, Author: Timothy W. Mays, Publisher: NCSEA / ICC

## SEISMIC

- *Structural Loads - 2012 IBC and ASCE / SEI 7-10*, Author: David Fanella, Publisher: NCSEA / ICC
- *Guide to the Design of Common Irregularities in Buildings: 2012/2015 IBC and ASCE 7-10, 2015*, Authors: Prasad, Thompson, and Sabelli, Publisher: NCSEA / ICC
- *2012 IBC Structural/Seismic Design Manual Volume 5: Examples for Seismically Isolated Buildings and Buildings with Supplemental Damping*: SEAOC / ICC
- *Seismic Design Solved Problems, 7<sup>th</sup> Edition, 2015*, Author: Majid Baradar, Publisher: Professional Publications, Inc.
- *Seismic and Wind Forces: Structural Design Examples, 4<sup>th</sup> Edition*, Author: Alan Williams, Publisher: ICC
- *Seismic Principles Practice Exams for the California Civil Seismic Exam, 5<sup>th</sup> Edition, 2015*, Author Majid Baradar
- *Seismic Design using Structural Dynamics*, Authors: Ghosh and Dasgupta, Publisher: SKGA / ICC

## WIND

- *Guide to the Use of the ASCE 7-10 Wind Load Provisions*, Authors: Mehta and Coulbourne, 2013, Publisher: ASCE
- *Seismic and Wind Forces: Structural Design Examples, 4<sup>th</sup> Edition*, Author: Alan Williams, Publisher: ICC
- *Wind Design Manual – 2018 IBC & ASCE 7-16*, Publisher: SEAOC / ICC (note: newer code than exam)

## LIGHT GAGE

- *2015 IBC Structural/Seismic Design Manual Volume 2: Examples for Light-Frame, Tilt-Up and Masonry Buildings*, Publisher: SEAOC / ICC
- *Cold-Formed Steel Design, 4<sup>th</sup> Edition, 2010*, Authors: Yu and LaBoube, Publisher: Wiley

## LOADS / GRAVITY

- *Snow Loads: Guide to the Snow Load Provisions of ASCE 7-10, 2010*, Author: Michael O'Rourke, Publisher: ASCE Press

## MASONRY

- *2015 Design of Reinforced Masonry Structures, 8<sup>th</sup> Edition*, Authors: Brandow, Chukwuma, and Hart, Publisher: Concrete Masonry Association of California and Nevada (CMACN)
- *2015 IBC Structural/Seismic Design Manual Volume 2: Examples for Light-Frame, Tilt-Up and Masonry Buildings*, Publisher: SEAOC / ICC
- *Masonry Structural Design*, Authors: Tanner and Klingner, Publisher: McGraw / ICC
- *2015 Masonry Codes and Specifications Compilation*, Publisher The Masonry Society (TMS)
- *Masonry Designers' Guide - 2013*, Publisher: The Masonry Society (TMS)



National Council of Structural Engineers Associations

- *Reinforced Masonry Engineering Handbook*, 8<sup>th</sup> Edition, 2017, Publisher: Masonry Institute of America (MIA) / ICC
- *Reinforced Masonry Engineering Handbook: Clay and Concrete Masonry*, 7<sup>th</sup> Edition, Authors: John M. Hochwalt and James E. Amrhein, Publisher: Masonry Institute of America

## STEEL

- *2012 IBC Structural/Seismic Design Manual Volume 4: Examples for Steel-Framed Buildings*, Publisher: SEAOC / ICC
- *Steel Structures Design for Lateral and Vertical Forces*, Author: Alan Williams, Publisher: McGraw / ICC
- *Steel Design for the Civil PE and Structural SE Exams*, 3<sup>rd</sup> Edition, 2018, Author: Frederick S. Roland, Publisher: Professional Publications, Inc.
- *Steel Construction Manual Design Examples*, V14.1, Publisher: AISC (downloadable .pdf)
- *Ductile Design of Steel Structures*, 2<sup>nd</sup> Edition, 2011, Authors: Bruneau, Uang, and Sabelli, 2011, Publisher: McGraw-Hill
- *Structural Steel Design*, 6<sup>th</sup> Edition, 2017, Authors: McCormac and Csernak, Publisher: Prentice Hall

## WOOD

- *2015 IBC Structural/Seismic Design Manual Volume 2: Examples for Light-Frame, Tilt-Up and Masonry Buildings*, Publisher: SEAOC / ICC
- *Design of Wood Structures ASD/LRFD*, 7<sup>th</sup> Edition, 2014, Authors: Breyer, Fridley, Cobeen, and Pollock, Publisher: McGraw-Hill
- *2015 NDS Design Examples – Beams, Columns, and Beam-Columns*, Publisher: AWC

## OTHER SUGGESTIONS

Create a short cut / design notebook for each material and each type of force or code area. This notebook must be bound (not staples) and no pencil versions are allowed. The following sections are recommended:

- Formula sheet – all formulas you will need listed on one or two pages to avoid flipping through multiple resources. Separate into ASD and LRFD as required.
- Favorite worked example problems

The following reference guides published by Codemasters may also be of use:

- *CodeMaster – Seismic Design (2015 IBC, ASCE 7-10)*
- *CodeMaster – Seismic Design Category (2015 IBC, ASCE 7-10)*
- *CodeMaster – Wind Design Overview (2015 IBC, ASCE 7-10)*
- *CodeMaster – Design for Snow Loads (2015 IBC, ASCE 7-10)*
- *CodeMaster – Allowable Stress Design for Masonry (2015 IBC)*
- *CodeMaster – Structural Wood Design ASD/LRFD (2015 IBC, ASCE 7-10, 2015 NDS)*

Make sure that you are familiar with what items you are allowed to bring to the exam. The following links to the NCEES website provide more information - <http://ncees.org/engineering/se/> and <http://ncees.org/exams/examinee-guide/>