

Building Services Engineering (BSE) Design Guides

BSE is about designing, installing & servicing everything that is needed to make buildings comfortable, safe & convenient. It is an engineering stream concerning with the design, manufacturing, installation, commissioning and maintenance of mechanical and electrical services in buildings.

Brief notes (on Building Services design and planning):

The Building Services Design Process [PDF]

<http://me.hku.hk/bse/capstone/bs-designprocess.pdf>

Considerations for Building Services Systems at Early Design Stages [PDF]

<http://me.hku.hk/bse/capstone/bse-early-design.pdf>

Brief Notes on Air Conditioning System Design [PDF]

<http://me.hku.hk/bse/capstone/design-hvac.pdf>

Brief Notes on Electrical Services and Lighting Systems [PDF]

http://me.hku.hk/bse/capstone/design-elec_light.pdf

Brief Notes on Lifts and Escalators Design [PDF]

<http://me.hku.hk/bse/capstone/design-lifts.pdf>

Design skills:

General: Student Notes for BSE (by Stephen Frazer) www.bsenotes.com

- Architectural Design and Services
- Building Services Co-ordination
- Computer Aided Drawing (CAD)
- Design Team Information Flow
- Space for Services
- Plant Sizing



CIBSE Design Compass www.cibsedesigncompass.org.uk

- Design framework for heating, cooling, ventilation, lighting, public health and electrical

BSE systems: Student Notes for BSE (by Stephen Frazer) www.bsenotes.com

- Ventilation
- Air Conditioning
- Refrigeration
- Hot and Cold Water Systems
- Drainage
- Electrical Services
- Lighting

Guidelines:

RIBA Outline Plan of Work 2007 [PDF]

<http://me.hku.hk/bse/capstone/ribaoutline.pdf>

Building Services Design Guidelines [PDF]

http://me.hku.hk/bse/capstone/IDDP-0809_BSE_design_guidelines.pdf

Guidelines for Oral Presentation [PDF]

http://me.hku.hk/bse/capstone/bbse3005_0607-present_guidelines.pdf

Guidelines on Report Writing [PDF]

http://me.hku.hk/bse/capstone/bbse3005_0607-report_guidelines.pdf

Useful info:

Useful Info for Building Services Design, www.mech.hku.hk/bse/capstone/bs-design.htm

Useful references for detailed design, www.mech.hku.hk/bse/capstone/detail_design_references.htm

Student Notes for Building Services Engineering, www.bsenotes.com

Recommended BSE Design Guide Books:



Design checks:

- Pennycook, K., 2007. *Design Checks for HVAC: A Quality Control Framework*, BSRIA Guide BG 4/2007, 2nd ed., Building Services Research and Information Association, Bracknell, Berkshire, England. [697 R1][AV 697 P416]
- Pennycook, K. 2006. *Design Checks for Electrical Services*, Application Guide BG 3/2006, Building Services Research and Information Association, Bracknell, Berkshire, England. [628.0941 P41][AV 621.31924 P41 d]
- Pennycook, K. 2006. *Design Checks for Public Health Engineering*, Application Guide BG 2/2006, Building Services Research and Information Association, Bracknell, Berkshire, England. [621.31924 P4][AV 621.31924 P4 d]

Design methodology and framework:

- Bownass, D. A., 2001. *Building Services Design Methodology: A Practical Guide*, Spon Press, London & New York. [696 B787 b](eBook via EBSCOhost)
- Churcher, D., 2009. *A Design Framework for Building Services: Design Activities and Drawing Definitions*, 2nd ed., Building Services Research and Information Association, Bracknell, Berkshire, England. [692.1 C56]
- Hawkins, G., 2009. *Building Services Job Book: A Project Framework for Engineering Services*, Building Services Research and Information Association, Bracknell, Berkshire, England. [AV 690 H39]
- Marsh, C., 2003. *Building Services Procurement*, Spon Press, London and New York. [690.0687 M36](eBook via EBSCOhost)

Illustrated guides:

- De Saulles, T., 2002. *An Illustrated Guide to Mechanical Building Services*, Building Services Research and Information Association, Bracknell, Berkshire, England. [P 658.25 D44]
- Hastings, P., 2005. *The Illustrated Guide to Electrical Building Services*, 2nd ed., Building Services Research and Information Association, Bracknell, Berkshire, England. [621.3 D27]
- Pennycook, K., 2009. *The Illustrated Guide to Ventilation*, Building Services Research and Information Association, Bracknell, Berkshire, England. [P 697.92 P416]
- Pennycook, K. A., 2008. *The Illustrated Guide to Renewable Technologies*, Building Services Research and Information Association, Bracknell, Berkshire, England. [333.794 P41]

Rules of thumb and model projects:

- Churcher, D., Sands, J. and Parsloe, C., 2008. *Model Demonstration Project: Apply HVAC Building Services Calculations*, Building Services Research and Information Association, Bracknell, Berkshire, England. [696 C55]
- Hawkins, G. (ed.), 2011. *Rules of Thumb: Guidelines for Building Services*, 5th ed., Building Services Research and Information Association, Bracknell, Berkshire, England. [697 R935]
- Hejab, M., and Parsloe, C., 1992. *Space Allowances for Building Services Distribution Systems: Detail Design Stage*, Building Services Research and Information Association, Bracknell, Berkshire, England. [624 H4]
- Hejab, M., and Parsloe, C., 1993. *Space and Weight Allowances for Building Services Plant: Inception Stage Design*, Building Services Research and Information Association, Bracknell, Berkshire, England. [696 H46]
- Levy, S. M., 2000. *MEP Databook*, McGraw-Hill, New York. [697 L66]
- Rawlings, R., 1999. *Environmental Rules of Thumb*, Technical Note TN 12/99, Building Services Research and Information Association, Bracknell, Berkshire, England. [P 628.0942 R25]

Technical references:

- CIBSE, 2008. *CIBSE Concise Handbook*, 3rd ed., Chartered Institution of Building Services Engineers, London. [696 C5]
- Hall, F. and Greeno, R., 2013. *Building Services Handbook*, 7th ed., Butterworth-Heinemann, Oxford, U.K. [690 H17][6th ed.: eBook via ebrary]