

0. Introduction



Ir Dr. Sam C. M. Hui
Department of Mechanical Engineering
The University of Hong Kong
E-mail: cmhui@hku.hk



About the Lecturer

- ***Ir Dr. Sam C. M. Hui*** 許俊民 博士 工程師 <http://ibse.hk/cmhui>
 - Adjunct Assistant Professor 客席助理教授, HKU Dept of Mech Engg
 - PhD, BEng(Hons), CEng, CEM, BEAP, BEMP, HBDP, MASHRAE, MCIBSE, MHKIE, MIESNA, LifeMAEE, AssocAIA
 - CEng = Chartered Engineer
 - CEM = Certified Energy Manager
 - BEAP = Building Energy Assessment Professional
 - BEMP = Building Energy Modeling Professional
 - HBDP = High-performance Building Design Professional
 - LifeMAEE = Life Member, Association of Energy Engineers
 - AssocAIA = Associate Member, American Institute of Architects
 - ASHRAE Distinguished Lecturer (2009-2011)
 - President, ASHRAE Hong Kong Chapter (2006-2007)



Study Guide



- Training Course on Building Services Engineering (BSE) 屋宇裝備工程培訓課程
- Objectives:
 - Provide basic knowledge of different building services systems for multi-skill training
 - Acquire practical skills on system concepts, operation and maintenance
 - Arouse interest in building services technologies and further career development



Study Guide

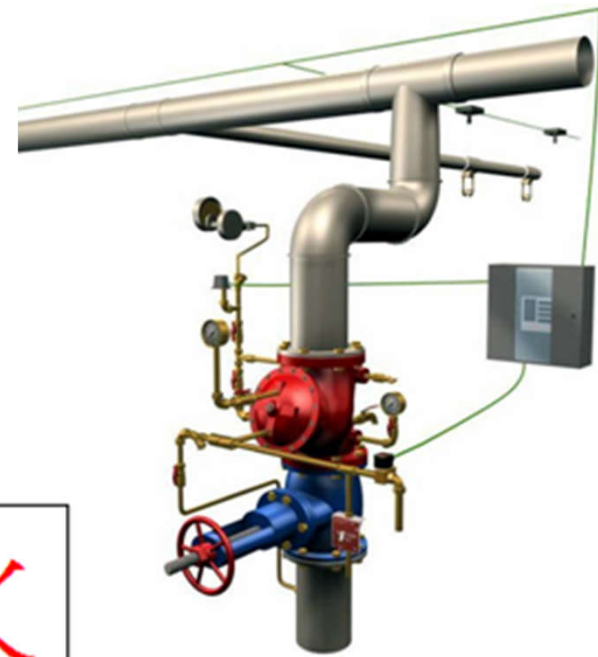


- Learning Outcomes:

- Appreciate the basic knowledge of different building services systems
- Develop practical skills on system concepts, operation and maintenance
- Enhance learner's interest in building services technologies and further career development
- Training period: February to September 2021
- Each lecture: Friday 2:00pm to 5:00pm



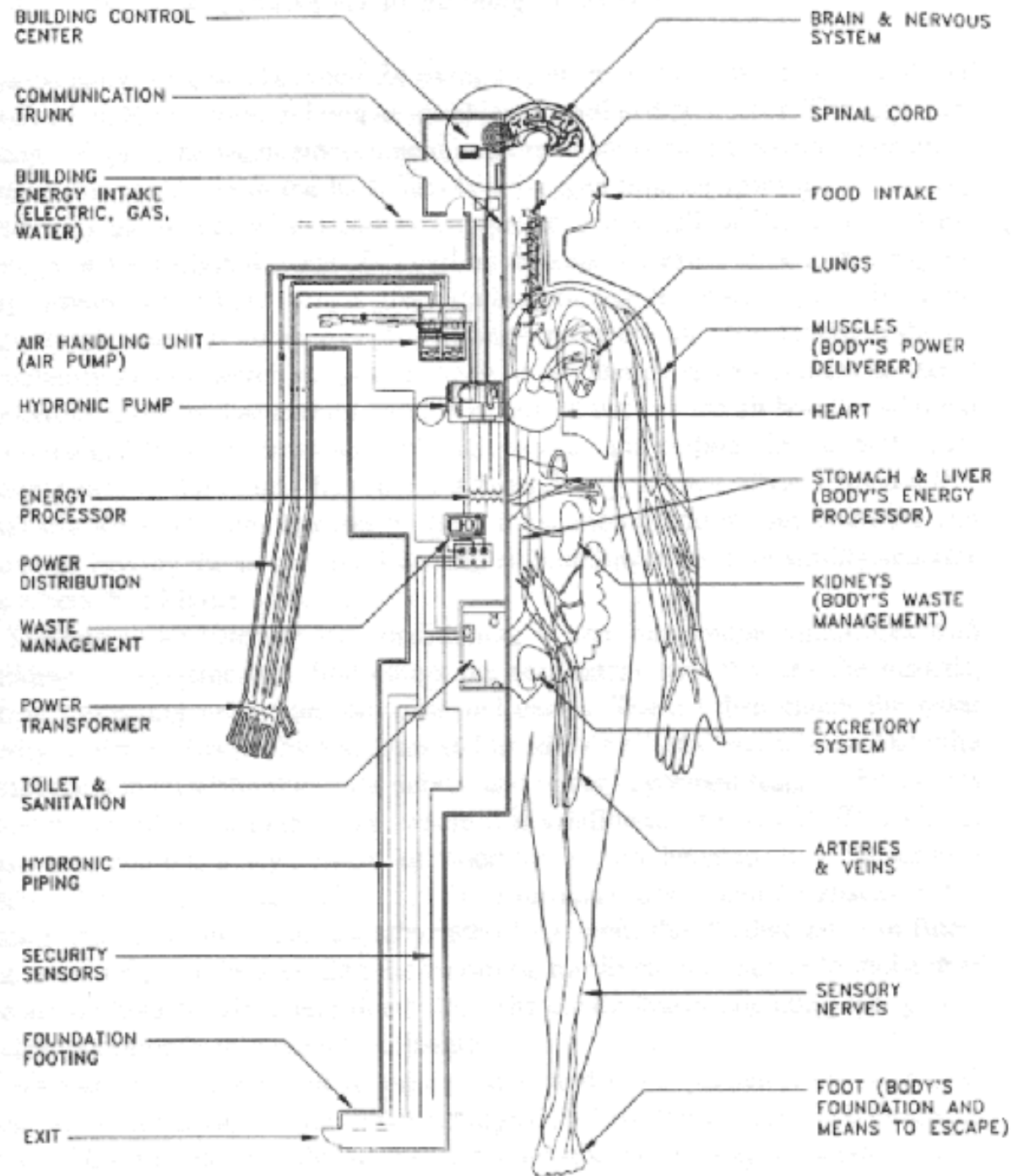
Major Building Services Engineering Systems and Components



風 火
水 電



Building Services Systems
屋宇設備系統



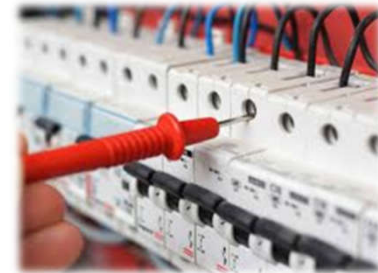
Human Body
人體結構

Figure 14.4 Body-building system integration.

(Source: Ahuja, A., 1997. *Integrated M/E Design: Building Systems Engineering*, Chapman & Hall, New York.)

Study Topics (total 10 sessions)

- 0. Introduction
- 1. Fire Services Part 1
- 2. Fire Services Part 2
- 3. Plumbing and Drainage Part 1
- 4. Plumbing and Drainage Part 2
- 5. HVAC Part 1
- 6. HVAC Part 2
- 7. HVAC Part 3
- 8. Electrical Services Part 1
- 9. Electrical Services Part 2
- 10. Electrical Services Part 3



(* Practical training will also be provided by inhouse staff of the company)

Teaching schedule (tentative)

19 Feb 2021	1. Fire Services Part 1
5 Mar 2021	2. Fire Services Part 2
19 Mar 2021	Fire Services Practical Training
9 Apr 2021	3. Plumbing and Drainage Part 1
23 Apr 2021	4. Plumbing and Drainage Part 2
7 May 2021	Plumbing and Drainage Practical Training
21 May 2021	5. HVAC Part 1
4 Jun 2021	6. HVAC Part 2
18 Jun 2021	HVAC Practical Training
2 Jul 2021	7. HVAC Part 3
16 Jul 2021	HVAC Practical Training
30 Jul 2021	8. Electrical Services Part 1
13 Aug 2021	9. Electrical Services Part 2
27 Aug 2021	Electrical Services Practical Training
10 Sep 2021	10. Electrical Services Part 3
24 Sep 2021	Electrical Services Practical Training

Study Guide



- Learning methods

- Attend lectures (each session 3 hours)
 - Total lecture hours = $3 \times 10 = 30$ hours
- Self study (~60 hours)
- Practical training ($6 \times 3 = 18$ hours)
- Technical site visits may be arranged for the participants to study the real-life situation in building and engineering projects



Study Guide



- Assessment methods

- Continuous in-course assessment
 - Assignments & Quiz

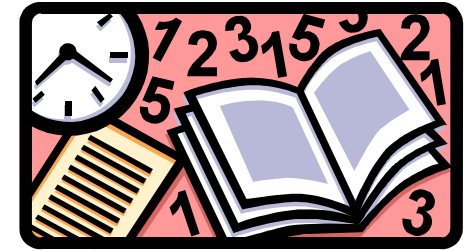
- Multi Skills Training Passport

- Arranged by the company to evaluate the performance of the participants
 - Classroom training (lectures)
 - On-the-job learning (practical training)



Assessment grades and marks

Grade	Marks	Description
A+	≥ 90	Excellent
A	85-89	Very good
A-	80-84	Good
B+	75-79	Above average
B	70-74	
B-	65-69	
C+	60-64	Average (fair)
C	55-59	
C-	50-54	
D+	45-49	Marginal
D	40-44	
F	< 40	Fail (weak)



Useful References

- Bleicher D., 2017. *The Illustrated Guide to Mechanical Building Services*, 3rd ed., BG31/2014, Building Services Research and Information Association, Bracknell, Berkshire, England.
- Bleicher D. & Tse P., 2014. *The Illustrated Guide to Electrical Building Services*, 3rd ed., BG32/2014, Building Services Research and Information Association, Bracknell, Berkshire, England.
- Brown R., 2014. *Illustrated Guide to Hot and Cold Water Services*, BG33/2014, Building Services Research and Information Association, Bracknell, Berkshire, England.
- Hall F. & Greeno R., 2017. *Building Services Handbook*, 9th ed., Routledge, Oxford, UK.