Technological and Higher Education Institute of Hong Kong
香港高等教育科技學院

Programme Briefing

ST125103

Bachelor of Engineering (Honours) in Building Services Engineering
屋宇設備工程（榮譽）工學士

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Introduction

- What is Building Services Engineering (BSE)?
  - About designing, installing and servicing everything that is needed to make buildings comfortable, safe and convenient
  - Building Services Engineers collaborate with other professionals to study and design a better built environment

- THEi BEng(BSE) Programme Aims:
  - Educate and train professional building services engineers and managers
  - Focus on knowledge and application, with emphasis on practicality and vocational orientation

Introduction

- Career prospect
  - BSE graduates at all levels:
    - Building services design consultants
    - Engineering contractors
    - Properties developer/management
    - Public utilities (e.g. CLP, MTR)
    - Government departments (e.g. EMSD)
    - Equipment supplier/manufacturer
    - Teachers/researchers

Programme Objectives

- **PO1**: equip students with a solid foundation in scientific and technical knowledge, which will benefit them throughout their careers;
- **PO2**: build up students' ability to pursue careers as practising building services engineers and to assume professional leadership roles;
- **PO3**: develop students' problem-solving, teamwork, communication, leadership/management skills, and ethical attitudes, which will prepare them for professional practice;
- **PO4**: equip students with an understanding of health, safety, legal, social, cultural, environmental and contemporary issues, and consequent responsibilities relevant to their professional practice; and
- **PO5**: strengthen students' commitment to keep abreast of developments in the profession, and to pursue independent and lifelong learning.

Programme Structure

- Credit-based system
  - Most modules have 3 credit points (CP)
  - Industry/Profession Specific (IPS) modules
    - Programme Core
    - Programme Elective
    - Work-integrated Learning (WIL)
  - General Education (GE) modules
    - GE Core
    - GE Elective

Schematic Programme Structure of Degree Programme

Module Type		Years 1 & 2 (CP)		Years 3 & 4 (CP)		Total no. of Credit Points	
		QF-L4	QF-L5	QF-L4	QF-L5		
General Education (GE)	GE Core (3 Domains)	6		3		9	7%
	GE Core (English)	3	3		3	9	7%
	GE Core (Chinese)	3			3	6	4%
	GE Elective		6		6	12	9%
Industry/ Profession Specific (IPS)	Programme Core	27	21		39	87	73%
	Programme Elective[1]				9	9	
	Work-integrated Learning[2]	(3)		(3)		(6)	
Total		69 (52%)		63 (48%)		132	

Overview of Programme Structure

Year 1 – Basic Formative Studies

- General Education 1
- Engineering Fundamentals 1
- Building Services Technology 1
- Building Industry, Engineering Drawing & CAD, Safety & Health

Year 2 – Concepts and Consolidation

- General Education 2
- Engineering Fundamentals 2
- Building Services Technology 2
- Engineering Management & Indoor Environmental Engineering

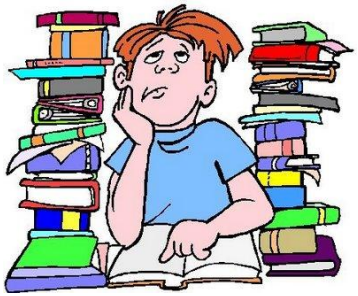
Year 3 – Concepts and Consolidation

- General Education 3
- Engineering Fundamentals 3
- Building Services Technology 3
- Building Sustainability & Building Information Modelling

Year 4 – Professional Development

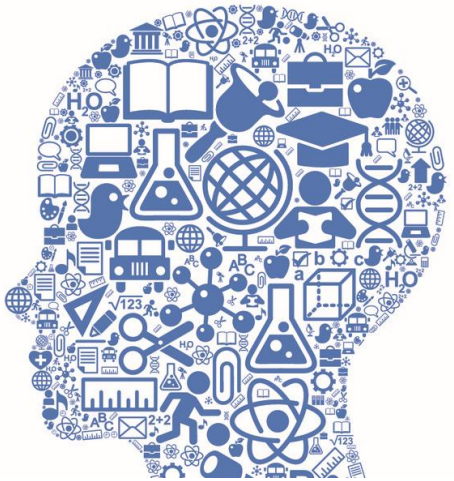
- General Education 4
- Building Services Technology 4
- Programme Electives
- Final Year Project 1 & 2 (Conceptual Design & Detailed MEP Design)
- Final Year Project 3 (Applied Research Project)

Curriculum



- **BEng(BSE) Year 1:**

Sem1
- GEC4101 Chinese 1
- GEC4301 The Human Spirit
- SBS4111 Calculus
- SBS4112 Engineering Physics
- SBS4113 Architecture & Buildings
- SBS4125 Engineering Drawing and Construction

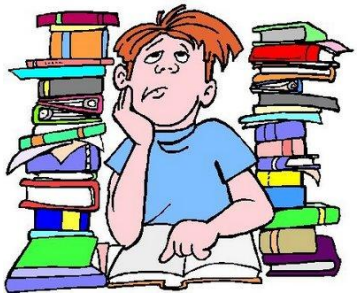


Sem2
- GEC4201 English for Academic Studies 1
- SBS4114 Built Environment
- SBS4121 Fluid Mechanics
- SBS4123 Electrical Services Fundamental
- SBS4124 Engineering Thermodynamics

Summer
- SBS4109 Safety, Health & Industrial Training

(* For details, visit the website http://ibse.hk/teaching/)

Curriculum



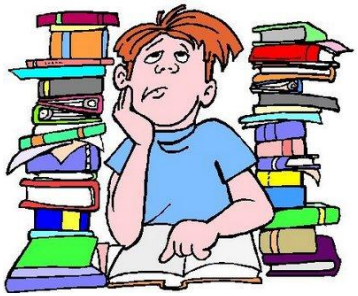
- **BEng(BSE) Year 2:**

Sem1
- GEC5202 English for Academic Studies 2
- GEE???? GE Elective
- SBS4211 Heat & Mass Transfer
- SBS5211 Advanced Engineering Mathematics
- SBS5212 Advanced Electrical Technology
- SBS5225 HVACR I

Sem2
- GEC4302 Habit of Scientific Thinking
- GEE???? GE Elective
- SBS5221 Piped Services
- SBS5222 Indoor Environmental Engineering
- SBS5223 Power Distribution & Machines
- SBS5224 Engineering Management

(* For details, visit the website http://ibse.hk/teaching/)

Curriculum



- **BEng(BSE) Year 3:**

Sem1
- GEC5102 Chinese 2
- GEC4303 Social Dynamics of Organisations
- SBS5311 HVACR II
- SBS5312 Lighting Technology
- SBS5313 Fire Services
- SBS5314 Commissioning of Facilities

Sem2
- GEC5206 English for Professional Purposes
- GEE???? GE Elective
- SBS5321 Numerical Method for Analysis
- SBS5322 Basics of Building Information Modelling
- SBS5413 Building Sustainability & Green Building Assessment

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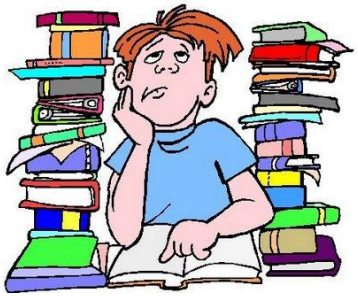
Summer
- SBS4309 Industrial Attachment

Curriculum



- **BEng(BSE) Year 4:**

Sem1
- GEE???? GE Elective
- SBS5397 Final Year Project 1 (BSE Conceptual Design)
- SBS5411 Building Information Modelling for BSE
- SBS5412 Design for Operation & Maintenance
- SBS5498 Final Year Project 2 (Applied Research Project)

Sem2
- SBS5421 Building Energy Efficiency cum Carbon Emission
- SBS5499 Final Year Project 3 (MEP Design)
- --- Select one Programme Elective
- --- Select one Programme Elective
- --- Select one Programme Elective

Assessment & Awards

- Align with learning objectives & outcomes
- Continuous and criteria-based
  - End-of-semester examination
  - Continuous assessment
    - Coursework (e.g. assignments, tests/quizzes, laboratories and practical work, field exercises, project reports, presentations and class participation)
    - For projects, safety & industrial training, performance throughout the module and quality of deliverables

Grade Point and Description of Standard

Grade	Description of Standard	Grade Point
A	Excellent	4.0
A-		3.7
B+	Very Good	3.3
B		3.0
B-	Good	2.7
C+	Satisfactory	2.3
C		2.0
C-	Pass	1.7
D+		1.3
D		1.0
F	Fail	0

Assessment & Awards

- Requirements for award of BEng(BSE):
  a) Accumulate 132 credit points and satisfy Work-integrated Learning (WIL) module
  b) Satisfy all “compulsory” and “elective” requirements
  c) Award Grade Point Average (AGPA) of 2.00 or above at the end of the degree programme
  d) Satisfy the Professional Seminar Requirement: attend at least EIGHT seminars

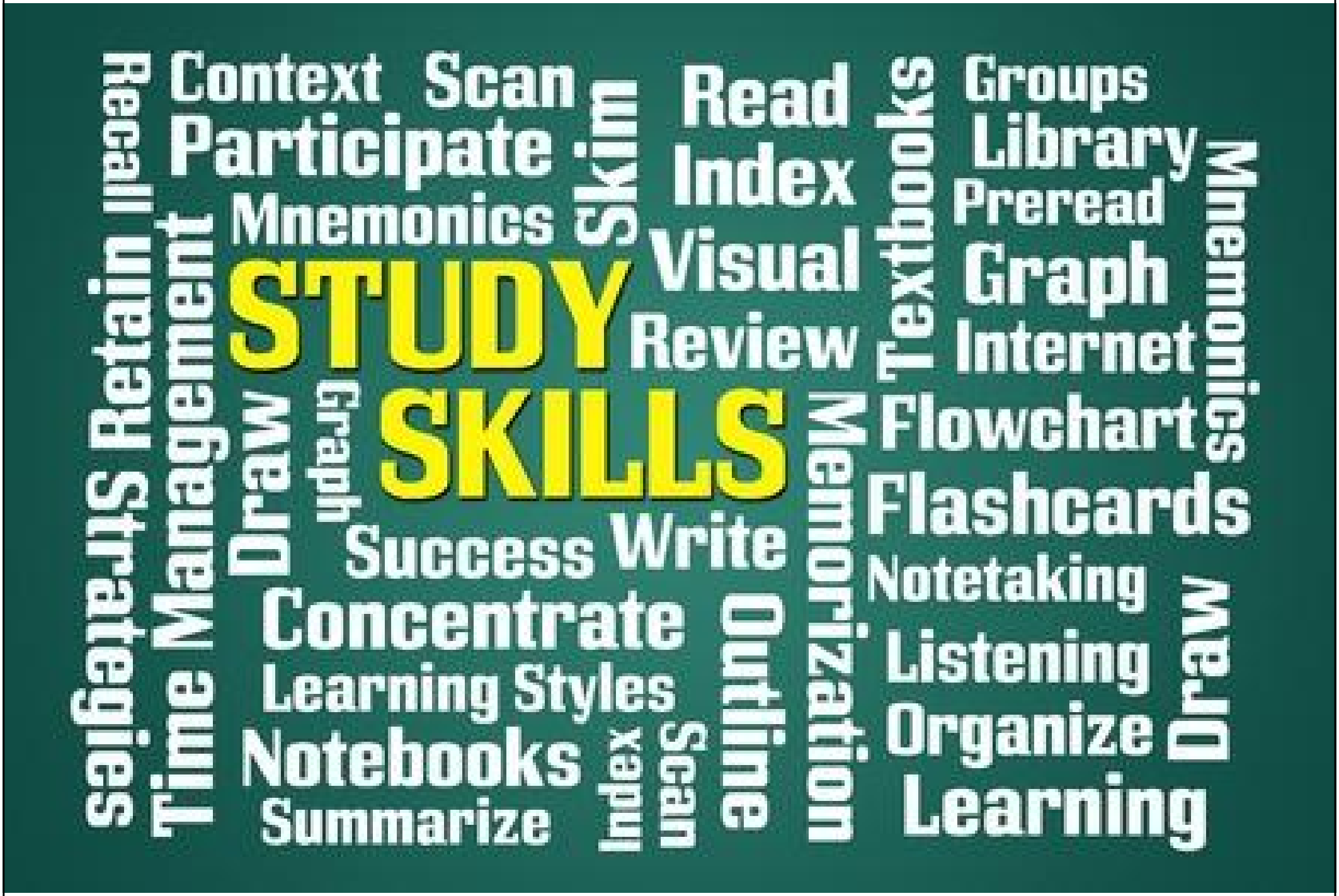
Honours Classifications

Honours Classification	Description of Standard	Cumulative GPA
First	Excellent	CGPA≥ 3.50
Second (Division I)	Very good	3.50 > CGPA≥ 3.00
Second (Division II)	Good	3.00 > CGPA≥ 2.50
Third	Satisfactory	2.50 > CGPA≥ 2.00
Pass	Pass	2.00 > CGPA≥ 1.30
Fail	Fail	CGPA < 1.30

Study Plan

- **Develop your own study plan**
  - Study load in each semester (not more than 18 credit units)
    - Do not overload!
  - Study load in each year (30 to 36 credit units)
    - Semester 1, Semester 2, Summer Semester
  - Consider prerequisite and sequence
    - Fundamentals must be studied first
  - May adjust your study plan if needed, such as:
    - Conduct exchange study
    - Fail some modules
    - Obtain credit transfer/exemption
  - Consult our academic staff if necessary

How to Learn and Study Effectively?



Study Skills

- Key issues to consider:
  - Time management
  - Concentration & organisation
  - Listening & note taking
  - Effective & critical reading
  - Writing skills & oral presentation
  - Preparing for exams & tests

- Understand your own learning styles & improve the quality of your learning
- Resources:
  - Study Skills for Students http://www.educationcorner.com/study-skills.html
  - Study skills for university http://www.monash.edu/rlo/study-skills

Student Activities

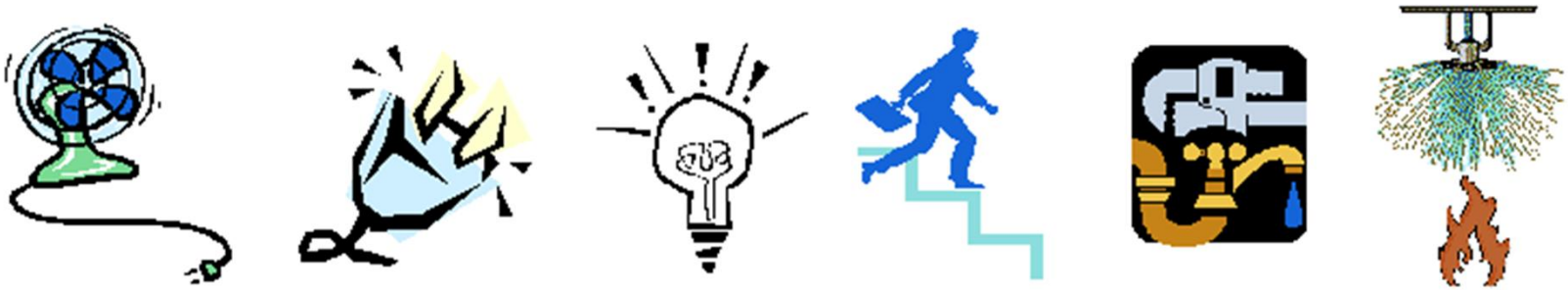
- Learning outside classrooms
  - Professional seminars, technical visits & academic exchanges
  - Working experience, academic/research projects
  - Student competitions/awards
  - Overseas study tours & visits
- Professional institutions
  - Such as ASHRAE, CIBSE, HKIE, BSOMES
  - Join as student members & helpers
- Whole-person development
  - Inter-personal skills & teamworking
  - Leadership skills & organisation
  - Think out of the box (be creative & innovative)

BSE Class Photo-taking (19 Jan 2017)

Singapore Study Tour 2017 (21-27 Aug 2017)

Singapore Study Tour 2017 (21-27 Aug 2017)

Thank You



Any questions?

More information at: http://ibse.hk/