

# FB6850P: BIG DATA TECHNOLOGIES AND BUSINESS APPLICATIONS

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Big Data Technologies and Business Applications

### Subject Code

FB - College of Business (FB)

### Course Number

6850P

### Academic Unit

College of Business (CB)

### College/School

College of Business (CB)

### Course Duration

Non-standard Duration

### Other Course Duration

Intensive mode: 4 days

### Credit Units

2

### Level

P5, P6 - Postgraduate Degree

### Medium of Instruction

Chinese (Putonghua)

### Medium of Assessment

Chinese

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

In the big data era, senior executives in all companies from both manufacturing and service industry should have an understanding of the innovation mechanism and logic in the context of big data. Understanding of the big data cannot assure success in business, but success in business nowadays cannot be achieved without understanding of the big data.

This course aims to provide an interactive workshop for senior executives to discuss the enabling technologies and business applications in big data era to understand the innovation mechanism and logic in the context of big data. Students will be grouped into different interest groups to discuss big data applications in various industry sectors. Students will have the opportunity to meet and interact with technology and business leaders and leading academics in big data area to explore the innovations in big data era.

### Course Intended Learning Outcomes (CILOs)

| CILOs |                                      | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|-------|--------------------------------------|---------------------|--------|--------|--------|
| 1     | Technology foundations for big data  |                     | x      | x      |        |
| 2     | Big data management and analytics    |                     | x      | x      | x      |
| 3     | Big data implementation              |                     |        | x      | x      |
| 4     | Big data solutions in the real world |                     |        | x      | x      |

#### A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

#### A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

#### A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### Learning and Teaching Activities (LTAs)

| LTAs |                                   | Brief Description                                                                         | CILO No.   | Hours/week (if applicable) |
|------|-----------------------------------|-------------------------------------------------------------------------------------------|------------|----------------------------|
| 1    | 1.Seminar                         | Sessions to cover theories, techniques, and applications for big data business innovation | 1, 2, 3    |                            |
| 2    | 2.Readings & Cases                | Students are required to read the materials provided before and after the seminars.       | 1, 2, 3, 4 |                            |
| 3    | 3.Interaction with domain experts | Several domain experts in big data business are invited to interact with the students.    | 1, 2, 3    |                            |

|   |               |                                                                                   |         |  |
|---|---------------|-----------------------------------------------------------------------------------|---------|--|
| 4 | 4.Assignments | Students are required to do one group assignment on big data business innovation. | 2, 3, 4 |  |
|---|---------------|-----------------------------------------------------------------------------------|---------|--|

**Assessment Tasks / Activities (ATs)**

|   | ATs                 | CILO No.   | Weighting (%) | Remarks ("- " for nil entry) | Allow Use of GenAI? |
|---|---------------------|------------|---------------|------------------------------|---------------------|
| 1 | Class participation | 1, 2, 3, 4 | 20            | -                            | Yes                 |
| 2 | Assignment          | 1, 2, 3, 4 | 20            | -                            | Yes                 |
| 3 | Presentation        | 1, 2, 3, 4 | 20            | -                            | Yes                 |
| 4 | Group project       | 1, 2, 3, 4 | 40            | -                            | Yes                 |

**Continuous Assessment (%)**

100

**Assessment Rubrics (AR)****Assessment Task**

Class Participation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 &amp; thereafter)

**Criterion**

70% attendance.

**Excellent**

(A+, A, A-) Provides interesting, complex, and creative arguments, cases, and conclusions to relevant topics in class, as in Good but stating a point of view in own voice and with originality, thoroughly grounded in the arguments and generating new issues. Excellent presentation skills.

**Good**

(B+, B, B-) Provides well-rounded arguments, cases, and conclusions to relevant topics in class, good grasp of theory/ conceptual framework and what questions need to be asked. Arguments balanced, creative, well-structured and convincing, leading to a well-reasoned conclusion. Effective presentation skills.

**Fair**

(C+, C, C-) Provides some arguments, cases, and conclusions to relevant topics in class, refers to related theory/ conceptual framework and the relevance to real-life situations. Draws on points from prevalent models or conceptual frameworks, but has difficulty in coming to a convincing conclusion. Satisfactory presentation skills.

**Marginal**

(D) Provides fragmented arguments, cases, and conclusions to relevant topics in class. Some points made but descriptive in nature, arguments unconvincing. Unsatisfactory presentation skills.

**Failure**

(F) Fail to participate in class

**Assessment Task**

Individual Contribution (for students admitted before Semester A 2022/23 and in Semester A 2024/25 &amp; thereafter)

**Criterion**

Individual contribution in the class.

Test students' understanding of major management concepts, models, and theories, and their relationship with major management issues and solutions encountered in the real world.

### **Excellent**

(A+, A, A-) Provides interesting, complex, and creative arguments, cases, and conclusions to relevant topics in class, as in Good but stating a point of view in own voice and with originality, thoroughly grounded in the arguments and generating new issues. Excellent presentation skills.

### **Good**

(B+, B, B-) Provides well-rounded arguments, cases, and conclusions to relevant topics in class, good grasp of theory/ conceptual framework and what questions need to be asked. Arguments balanced, creative, well-structured and convincing, leading to a well-reasoned conclusion. Effective presentation skills.

### **Fair**

(C+, C, C-) Provides some arguments, cases, and conclusions to relevant topics in class, refers to related theory/ conceptual framework and the relevance to real-life situations. Draws on points from prevalent models or conceptual frameworks, but has difficulty in coming to a convincing conclusion. Satisfactory presentation skills.

### **Marginal**

(D) Provides fragmented arguments, cases, and conclusions to relevant topics in class. Some points made but descriptive in nature, arguments unconvincing. Unsatisfactory presentation skills.

### **Failure**

(F) Fail to participate in class

## **Assessment Task**

Individual Presentation and Report (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

### **Criterion**

Test students' ability to demonstrate a sound knowledge of contemporary organizational problems and solutions and how that knowledge can be applied to solve real-world management problems encountered in their work context effectively and creatively

### **Excellent**

(A+, A, A-) As in Good but with a higher degree of originality and internalization to form a well-defined perspective on the issues. Strong evidence of reflection on own position based on a comprehensive understanding of theory/conceptual framework and the contemporary context. Generalizes principles, models or practices to generate new insights and questions. A soundly structured assignment with balanced and compelling conclusions thoroughly grounded in the arguments presented.

### **Good**

(B+, B, B-) The arguments demonstrate a good appreciation of the issues, theory/ conceptual framework and the contemporary context with indications of reflection on own position. Some new insights and questions offered with clear evidence of learning from the assignment and of the ability to apply it. A well-structured, original assignment with conclusions properly grounded in the arguments and convincingly justified.

### **Fair**

(C+, C, C-) The arguments are relevant, accurate but they fall short of a comprehensive understanding of the issues, theory/ conceptual framework and the contemporary context. Some evidence of learning from the assignment and of the ability to apply it. Fair justification of arguments and conclusions but little originality demonstrated. Assignment structure needs improvement.

### **Marginal**

(D) The arguments are relevant and accurate but isolated, addressing the issues only in part and lacking both a strong grounding in theory/conceptual framework and understanding of the contemporary context. No originality, weak justification of conclusions and poorly structured.

#### **Failure**

(F) Little evidence of familiarity with the subject matter; Fail to submit the PPT

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#### **Assessment Task**

Group Presentation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

#### **Criterion**

Test students' ability to understand major management concepts, models, and theories, and apply them to understand and address a range of management issues effectively and creatively.

#### **Excellent**

(A+, A, A-) Interesting, complex, and creative account of key issues and its relevance to real-life situations, excellent grasp of related theory/conceptual framework and what questions need to be asked. As in Good but stating a point of view in own voice and with originality. Conclusion leads to a novel conclusion, thoroughly grounded in the arguments and generating new issues. Excellent presentation skills including outstanding eye-contact with audience, verbal delivery, visual aids and time management.

#### **Good**

(B+, B, B-) A well-rounded account of the key issues and its relevance to real-life situations, good grasp of theory/conceptual framework and what questions need to be asked. Most/all relevant points drawn from prevalent models or conceptual frameworks, arguments balanced, creative, well-structured and convincing, leading to a well-reasoned conclusion. Effective presentation skills including good eye contact with audience, verbal delivery, visual aids and time management.

#### **Fair**

(C+, C, C-) Describes the key issues, refers to related theory/conceptual framework and the relevance to real-life situations. Draws on points from prevalent models or conceptual frameworks, presents some arguments but has difficulty in finding a resolution and in coming to a convincing conclusion. Satisfactory presentation skills including reasonable eye-contact with audience, verbal delivery, visual aids and time management.

#### **Marginal**

(D) Presents enough to describe what the key issues are about. Some points made but descriptive in nature, arguments unconvincing. Conclusion is incomprehensive and lacking in balance. Unsatisfactory presentation skills including poor eye contact with audience, verbal delivery, visual aids and time management.

#### **Failure**

(F) Fail to participate in class for the assignments

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#### **Assessment Task**

Class participation (for students admitted from Semester A 2022/23 to Summer Term 2024)

#### **Criterion**

70% attendance.

#### **Excellent**

(A+, A, A-) Strong evidence of punctual attendance of lectures and active participation in, as well as initiation of, class discussions.

#### **Good**

(B+, B) Sufficient evidence of punctual attendance of lectures and active participation in class discussions.

**Marginal**

(B-, C+, C) Marginal evidence of punctual attendance of lectures and active participation in class discussions.

**Failure**

(F) Lacking evidence of punctual attendance of lectures and active participation in class discussions.

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**Assessment Task**

Assignment (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Criterion**

Individual contribution in the class.

Test students' understanding of major management concepts, models, and theories, and their relationship with major management issues and solutions encountered in the real world.

**Excellent**

(A+, A, A-) Strong evidence of firm grasp of the subject knowledge and achieving the stated CILOs. Students have demonstrated very strong overall ability to discover and innovate, and showed very strong evidence of accomplishments of discovery.

**Good**

(B+, B) Sufficient evidence of achieving the stated CILOs. Students have demonstrated strong overall ability to discover and innovate, and showed strong evidence of accomplishments of discovery.

**Marginal**

(B-, C+, C) Marginal familiarity with the subject knowledge. Students have demonstrated marginal ability to discover and innovate, and showed marginal evidence of accomplishments of discovery.

**Failure**

(F) Little evidence of familiarity with the subject knowledge. Students have demonstrated little evidence of ability to discover and innovate, and showed little evidence of accomplishments of discovery.

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**Assessment Task**

Presentation (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Criterion**

Test students' ability to demonstrate a sound knowledge of contemporary organizational problems and solutions and how that knowledge can be applied to solve real-world management problems encountered in their work context effectively and creatively

**Excellent**

(A+, A, A-) Strong evidence of clear articulation of the subject knowledge and achieving the stated CILOs. Students have demonstrated very strong overall ability to discover and innovate, and showed very strong evidence of accomplishments of discovery.

**Good**

(B+, B) Sufficient evidence of achieving the stated CILOs. Students have demonstrated strong overall ability to discover and innovate, and showed strong evidence of accomplishments of discovery.

**Marginal**

(B-, C+, C) Marginal familiarity with the subject knowledge. Students have demonstrated marginal ability to discover and innovate, and showed marginal evidence of accomplishments of discovery.

#### Failure

(F) Little evidence of familiarity with the subject knowledge. Students have demonstrated little evidence of ability to discover and innovate, and showed little evidence of accomplishments of discovery.

### Assessment Task

Group project (for students admitted from Semester A 2022/23 to Summer Term 2024)

#### Criterion

Test students' ability to understand major management concepts, models, and theories, and apply them to understand and address a range of management issues effectively and creatively.

#### Excellent

(A+, A, A-) Strong evidence of firm grasp of the subject knowledge and achieving the stated CILOs. Students have demonstrated very strong overall ability to discover and innovate, and showed very strong evidence of accomplishments of discovery.

#### Good

(B+, B) Sufficient evidence of achieving the stated CILOs. Students have demonstrated strong overall ability to discover and innovate, and showed strong evidence of accomplishments of discovery.

#### Marginal

(B-, C+, C) Marginal familiarity with the subject knowledge. Students have demonstrated marginal ability to discover and innovate, and showed marginal evidence of accomplishments of discovery.

#### Failure

(F) Little evidence of familiarity with the subject knowledge. Students have demonstrated little evidence of ability to discover and innovate, and showed little evidence of accomplishments of discovery.

## Part III Other Information

### Keyword Syllabus

- Big data
- Business models
- Business innovation
- Internet plus
- Business intelligence

### Reading List

#### Compulsory Readings

| Title |                                                   |
|-------|---------------------------------------------------|
| 1     | 全球商业智能与分析市场剧变：传统BI巨头集体沦陷，金玲，com, 2016-02-22       |
| 2     | 数据帝国（上）：数字革命正在从方方面面改变着我们的生活2015-01-19, 王学恒，36大数据。 |
| 3     | 数据帝国（下）——数字化巨大创新背后的另一个审视逻辑，2015-01-20，王学恒，36大数据。  |
| 4     | 你必须知道的大数据 大卫芬雷布 2013-01-10, 哈佛商业评论，中文版。           |
| 5     | 数据科学实战 2015（简介）                                   |
| 6     | 大数据时代，中小企业如何借力成长，姚远，2014-12-05，哈佛商业评论，中文版。        |

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|----|----------------------------------------------------|
| 7  | 熊彼特的创新理论 MBALib,2016-2-20 下载。                      |
| 8  | 管理创新 (Management Innovation) MBALib,2016-2-20 下载。  |
| 9  | 大数据实际应用案例50篇 金玲com 2014-08-19                      |
| 10 | 大数据应用层次和案例及展望, 傅志华, 2015-11-19, com。               |
| 11 | 2016大数据产业从数据思维和场景应用开始, 鲍忠铁, 2016-01-02, com。       |
| 12 | 大数据给中国带来的十大商业应用场景 鲍忠铁, 2015-07-22, com。            |
| 13 | 深扒大数据: 关于用户隐私以及企业价值, 常宁, 微信公众号: 科技常评论, 2015-09-15。 |
| 14 | 数据科学家揭秘《微信用户报告》背后的巨大商机, 炫材, 我道, 2015-10-27。        |

### Additional Readings

| Title |     |
|-------|-----|
| 1     | Nil |