THE UNIVERSITY OF HONG KONG

Regulations and Syllabuses for

MSBA

plus

Regulations Governing the Format etc of Dissertations for
Higher Degrees by Coursework

2017-2018
REGULATIONS FOR THE DEGREE OF
MASTER OF SCIENCE IN BUSINESS ANALYTICS
(MSc(BA))

These Regulations apply to candidates admitted to the Master of Science in Business Analytics curriculum in the academic year 2017-18 and thereafter.

(See also General Regulations and Regulations for Taught Postgraduate Curricula)

Admission requirements

MSc(BA)1. To be eligible for admission to the courses leading to the degree of Master of Science in Business Analytics, candidates shall
(a) comply with the General Regulations;
(b) comply with the Regulations for Taught Postgraduate Curricula;
(c) hold
   (i) a Bachelor's degree with honours of this University; or
   (ii) another qualification of equivalent standard from this University or from another University or comparable institution accepted for this purpose; and
(d) satisfy the examiners in a qualifying examination, if required.

Qualifying examination

MSc(BA)2.
(a) A qualifying examination may be set to test the candidates’ formal academic ability or their ability to follow the courses of study prescribed. It shall consist of one or more written papers or their equivalent, and may include a project report.
(b) Candidates who are required to satisfy the examiners in a qualifying examination shall not be permitted to register until they have satisfied the examiners in the examination.

Award of degree

MSc(BA)3. To be eligible for the award of the degree of Master of Science in Business Analytics, candidates shall
(a) comply with the General Regulations;
(b) comply with the Regulations for Taught Postgraduate Curricula; and
(c) complete the curriculum and satisfy the examiners in accordance with the regulations set out below.

Period of study

MSc(BA)4. The curriculum shall normally extend over two academic years of part-time study, or one academic year of full-time study. Candidates shall not be permitted to extend their studies beyond the maximum period of registration of four academic years of part-time study or two academic years of full-time study, unless otherwise permitted or required by the Board of the Faculty.

Completion of curriculum

MSc(BA)5. To complete the curriculum, candidates shall
(a) satisfy the requirements prescribed in TPG 6 of the Regulations for Taught Postgraduate Curricula;
(b) follow the courses of instruction and complete satisfactorily all prescribed written work and field work;
(c) satisfy the examiners in all prescribed courses as specified in the syllabuses and in any prescribed form of examination; and
(e) have achieved a cumulative GPA of 2.0 or above.

Assessment

MSc(BA).6. Candidates shall satisfy the examiners in all the prescribed courses as specified in the syllabuses. Examinations shall normally be held at the end of each course, unless otherwise specified. Only passed courses will earn credits.

MSc(BA).7 Candidates who have failed a course shall be required to sit for re-examination or to retake the course. If the failure is an elective course, candidates may elect to take another course as a substitute.

MSc(BA).8 Candidates who are unable, because of illness, to be present at the written examination of any course may apply for permission to present themselves at a supplementary examination of the same course to be held at some other time. Failure to sit for supplementary examination as arranged shall automatically result in course failure.

MSc(BA).9. Candidates shall not be permitted to repeat a course for which they have received a passing grade for the purpose of upgrading.

MSc(BA).10 Candidates who have failed a total of more than two examinations or re-examinations during the entire period of study of the curriculum shall be recommended for discontinuation under the provisions of General Regulations G12.

MSc(BA).11 There shall be no appeal against the results of examinations and all other forms of assessment.

Grading system

MSc(BA).12. Courses shall be graded according to the following grading system:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td></td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Pass</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
</tbody>
</table>
Assessment results

MSc(BA)13. On successful completion of the curriculum, candidates who have shown exceptional merit at the completion of the curriculum may be awarded a mark of distinction, and this mark shall be recorded in the candidates’ degree diploma.
SYLLABUSES FOR THE DEGREE OF
MASTER OF SCIENCE IN BUSINESS ANALYTICS

These syllabuses apply to candidates admitted to the Master of Business Analytics in the academic year 2017-18 and thereafter.

CURRICULUM STRUCTURE

Candidates must read a total of ten courses, each carries 6 credits, comprising five core courses (inclusive of one capstone course) and five elective courses. A list of electives will be announced at the beginning of each module.

Not all the courses listed in the syllabuses will necessarily be offered each academic year.

CORE COURSES

MSBA6001 Business Intelligence and Analytics (6 credits)

Online transactions, mobile applications, sensors, video-capturing systems and social media generate massive amount of data. In response businesses increasingly rely on quantitative techniques, statistical models, and data mining methods to gain managerial and strategic insights from such data and thus enhance their competitive position. This course covers both technical and managerial aspects to provide a basic understanding of business intelligence and analytics and show how it can be used by businesses to analyze their competitive posture more effectively, know their customers better, and make better managerial and strategic decisions. Basic data mining models including classification, clustering, and association rule mining will also be introduced.

MSBA6002 Business Statistics (6 credits)

The discipline of statistics is concerned with situations involving uncertainty and variability. Variability greatly affects the interpretation of data. Thus statistics forms an important descriptive and analytical tool. This elementary course, which is taught without much technical mathematics, presents many standard situations of data analysis and interpretation with emphases on business examples. The statistical tests of these situations are presented. Microsoft Excel might be used to carry out some statistical analysis.

MSBA6003 Quantitative Analysis Methods (6 credits)

This course introduces the basic concepts in quantitative business analysis to help you gain a clear understanding of the key elements in the decision making process. We discuss methods that are used extensively in business organizations. These methods provide you with the tools and the skills to approach, analyze, and solve problems of varying scales. Furthermore, this course aims at improving a decision-maker’s overall problem solving ability by stressing approaches to 1) understand and question assumptions, 2) consider a richer set of solution alternatives, and 3) consider diverse measures of performance.

MSBA6004 Operations Analytics (6 credits)

Operations are concerned with the management of the processes that convert inputs into outputs. Effective operations management involves managing people, equipment, and other resources. In the typical business organization the majority of the costs and controllable assets are managed by the operations function. Thus, this discipline—with the techniques, procedures and knowledge it encompasses – is a vital segment of business activity. This course cover a set of techniques that were
designed to help people understand operations processes and then improve processes whether those processes are administrative, manufacturing, product design, or service processes.

**MSBA6005  Business Analytics Capstone (6 credits)**

This course allows students to integrate and apply the knowledge and techniques that they have learned in previous courses in a business analytics project. Teams of student will carry out business analytics projects using real-world data and have the opportunity to be involved in different stages in business analytics project, including project planning and management, strategy setting, model building, data analysis and interpretation, and result presentation. In the process students will become familiar with the use of analytics tools, quantitative techniques, and managerial skills in business analytics projects.

**ELECTIVE COURSES**

**MSBA6011  Big Data Analysis Techniques (6 credits)**

With the rapid advances of information technologies, massive amounts of data are becoming available. The need to handle “big data” with high volume (in the magnitude of gigabytes, terabytes, and even petabytes), high velocity (real-time streamed data), and high variety (coming from a wide range of sources including social media) has become commonplace in various business and research contexts. The course provides students with the foundational concepts and knowledge on collecting, storing, manipulating, mining, and visualizing “big data”. Core platforms and technologies such as Hadoop, HDFS, MapReduce, Hive, and NoSQL will be introduced.

**MSBA6012  Social and Digital Media Analytics (6 credits)**

Social media and digital advertising have become important sources for understanding the stakeholders of an organization, such as customers, suppliers, and pressure groups. Analyzing data from these sourcing can reveal useful insights for strategic planning and achieving business objectives. This course is designed to help students develop strategies to create and extract value from these phenomena. Topics will cover strategic and operational issues pertaining to social media and digital marketing initiatives, metrics to capture and evaluate outcomes, and predictive analysis to link chatter to business performance. Techniques covered will include social network analysis, SEO/SEM, experimental design, text analytics, and sentiment analysis.

**MSBA6013  Forecasting and Predictive Analytics (6 credits)**

This course focuses on the fundamentals of forecasting and predictive models for business. Students will gain knowledge and hands-on experience in applying statistical and data mining techniques to make predictions by identifying patterns and making projections from historical data. The course will also examine the applications of these models in real-world business situations.

**MSBA6014  Business Simulation (6 credits)**

This course introduces simulation models to analyse business processes and solve practical problems. Students will gain basic knowledge such as Monte Carlo simulation first, and then be introduced to a simulation package that can be used to evaluate business process performance and, more importantly, facilitate decision making process.
MSBA6015  Service Operations Management (6 credits)

This course focuses on techniques to manage service operations and combine operations, marketing, and human resources aspects of services in the discussion. Topics will include (1) analyzing service process using queueing models, (2) improving service process with lean concepts, and (3) analyzing customer behavior data and improving service delivery.

MSBA6016  Supply Chain and Logistics Management (6 credits)

The course is designed to prepare students to apply business strategies, analytical methodologies and information technology in supply chain management. Traditionally industries have focused on operation evaluation and performance improvement of manufacturing process; however, the deficiency of supply chain coordination results in severe downgrade of business competitiveness. With advent of information technology, computers not only improve manufacturing operation and management, but also enhance strategic decision making as well. This course focuses on the systems approach to planning, analysis, design, development, and evaluation of supply chain management.

MSBA6017  Financial Analytics (6 credits)

This course aims to introduce how spreadsheet modelling and other analytics methods can be applied to financial problems. Topics include derivative pricing, portfolio optimization, risk management, and financial data mining. Microsoft Excel and Visual Basic for Applications (VBA) will be used in the course.

MSBA6018  Marketing Engineering (6 credits)

This course focuses on introducing core principles of marketing and covering key marketing concepts and processes such as managing customer relationships, marketing planning, understanding customers, competitors and marketplace, and developing marketing strategies (segmentation, innovation, and positioning) and marketing programs (products/services/branding, pricing, channel, and marketing communications).

ASSESSMENT
Candidates shall be assessed for each of the courses for which they have registered, and assessment is normally conducted in the form of coursework assessment (40-100%) and examinations (0-60%), unless otherwise specified by the course instructor.
REGULATIONS GOVERNING THE FORMAT, BINDING, AND PRESENTATION OF DISSERTATIONS FOR HIGHER DEGREES BY COURSEWORK

1. Each copy of a dissertation shall be typewritten or printed on one side only of International size A4 paper\(^1\) (except for drawings, maps, or tables on which no restriction is placed), with a margin of not less than 38 mm on the left-hand edge of each page.

2. The appropriate Board of the Faculty shall decide whether any dissertation submitted successfully in part-fulfilment of a higher degree by coursework shall be an accession to the University Library.

3. If it is to be an accession to the Library, the top copy of the dissertation shall be used, and bound in one or more volumes as determined by the Librarian and between boards faced with cloth in black for MA, MACHDS, MATPP, MGIS, MPA, MMedSc, MRes(Med), in dark blue for MSW, MBA, and in green for all others. The title, name of author, degree, and date shall be lettered in gilt on the front cover and spine in accordance with the standard layout approved by the Librarian. The title of a dissertation written in Chinese shall be lettered on the cover in Chinese and in English.

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\(^1\) 297 mm x 210 mm.

N.B. Candidates for higher degrees are reminded that any dissertation not typed or printed on the correct paper will not be accepted. Any candidate who has difficulty in obtaining the paper should consult his/her Faculty Office.