

Academic Year: 2021 - 2022

This version is as of 07/07/2021 5:47PM

### ▼ Important Message

The information provided here is for reference and may be subject to change by the course coordinator(s) or the offering department(s) concerned.

### ▼ Section A: Course Information

#### BBMS3001 - Medical Microbiology

Faculty LKS Medical Faculty

#### Department

##### Description

Dept of Microbiology

#### Course Coordinator

| Name              | Faculty/ Department  | Email Address       |
|-------------------|----------------------|---------------------|
| Dr Richard YT Kao | Dept of Microbiology | rytkao@hkucc.hku.hk |

Credit Value 6.00

Course Grade A+ to F

Semester Offered First Semester

#### Prerequisite(s)/ Corequisite(s)/Impermissible Combination(s)

Pass in BBMS1001 Introduction to Human Anatomy and Physiology and BBMS2001 Basic Biomedical Laboratory Techniques

#### Approved Syllabus

This course will introduce students to the microbial world by providing general properties of microorganisms including classification, morphologic and growth characteristics, metabolism, genetics and pathogenesis. It will cover aspects of the handling and containment of microorganisms as well as of medical treatment and prevention. Students will explore the applications of microbiology to modern diagnostics, biotechnology and vaccinology.

Prerequisite: Pass in BBMS1001 Introduction to Human Anatomy and Physiology and BBMS2001 Basic Biomedical Laboratory Techniques

Assessment: 50% continuous assessment; 50% examination.

### ▼ Section B: Teaching/ Learning

Course Type Lecture course

#### Course Learning Outcomes

Find | View All First 1 of 1 Last

Academic Plan BBiomedSc (4)

| On completing the course, students will be able to  | Alignment with Programme Learning Outcomes   |
|---|--|
| 1 [SN: 001]<br>Demonstrate solid knowledge of the properties of microorganisms including classification, morphologic and growth characteristics, metabolism, genetics and pathogenesis. | [SN: 00001]<br>Students should be able to demonstrate solid knowledge of biomedical sciences.<br><br>[SN: 00002]<br>Students should be able to develop scientific inquiry and critical thinking skills, including the ability to understand, analyze, and evaluate problems in order to develop solutions. |

|  |  |
|--|--|
|  | <p>[SN: 00003]<br/>Students should be able to apply the core knowledge and skills for the pursuit of biomedical sciences research.</p> <p>[SN: 00004]<br/>Students should be able to evaluate research literature.</p> <p>[SN: 00005]<br/>Students should be able to make rational hypotheses about ill-defined biomedical sciences problems based on the best available data and evidence.</p> <p>[SN: 00006]<br/>Students should be able to identify potential approaches or research that will lead to the advancement in biomedical sciences.</p>  |
| <p>[SN: 002]<br/>2 Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding medical treatment and prevention.</p>   | <p>[SN: 00005]<br/>Students should be able to make rational hypotheses about ill-defined biomedical sciences problems based on the best available data and evidence.</p> <p>[SN: 00006]<br/>Students should be able to identify potential approaches or research that will lead to the advancement in biomedical sciences.</p> <p>[SN: 00008]<br/>Students should be able to understand broader concepts of molecular and health sciences and be able to relate these to scientific issues of cultural, regional and global significance.</p>  |
| <p>[SN: 003]<br/>3 Understand the impact of microbial infections in our world.</p>   | <p>[SN: 00001]<br/>Students should be able to demonstrate solid knowledge of biomedical sciences.</p> <p>[SN: 00002]<br/>Students should be able to develop scientific inquiry and critical thinking skills, including the ability to understand, analyze, and evaluate problems in order to develop solutions.</p> <p>[SN: 00003]<br/>Students should be able to apply the core knowledge and skills for the pursuit of biomedical sciences research.</p> <p>[SN: 00004]<br/>Students should be able to evaluate research literature.</p> <p>[SN: 00005]<br/>Students should be able to make rational hypotheses about ill-defined biomedical sciences problems based on the best available data and evidence.</p> <p>[SN: 00006]<br/>Students should be able to identify potential approaches or research that will lead to the advancement in biomedical sciences.</p> <p>[SN: 00008]<br/>Students should be able to understand broader concepts of molecular and health sciences and be able to relate these to scientific issues of cultural, regional and global significance.</p> |
| <p>[SN: 004]<br/>4 Demonstrate knowledge-based skills in working and collaborating together with fellow students in practical classes and in group presentation of scientific ideas.</p> | <p>[SN: 00007]<br/>Students should be able to engage in relevant and realistic self-appraisal as biomedical scientists and realize one's own capabilities and limitations.</p> <p>[SN: 00009]<br/>Students should be able to communicate and collaborate effectively with scientific peers and healthcare professionals orally and in writing.</p>   |

|   |   |
|---|---|
|   | [SN: 00010]<br>Students should be able to understand the importance of ethics and integrity of scientific research, and respect the roles and contributions of other members of the team and display capacity for team work.  |
| [SN: 005]<br>5 Apply and disseminate medical microbiological knowledge in scientific research and in everyday life. | [SN: 00011]<br>Students should be able to appreciate the role of biomedical sciences in the improvement of human conditions.<br><br>[SN: 00012]<br>Students should be able to participate in the generation, interpretation, application and dissemination of biomedical sciences knowledge which will improve the quality of healthcare. |

### Course Teaching and Learning Activities

| Description                          | Approx. number of hours (for normative student) | % of total study load |
|--------------------------------------|---|-----------------------|
| Laboratory practicals- contact hours | 8.00  | 7.27                  |
| Lectures- contact hours              | 24.00   | 21.82                 |
| Tutorials- contact hours             | 8.00  | 7.27                  |
| Assessment                           | 20.00   | 18.18                 |
| Reading / Self study                 | 50.00   | 45.45                 |
| <b>Total</b>                         | <b>110.00</b>                                   | <b>100.00</b>         |

### Assessment Methods and Weighting

| Assessment methods                  | Weighting in final course grade (%) |
|-------------------------------------|-------------------------------------|
| Assignments                         | 10.00                               |
| Examination                         | 50.00                               |
| Performance in class                | 10.00                               |
| Presentation                        | 10.00                               |
| Report                              | 10.00                               |
| Tests                               | 10.00                               |
| <b>Total</b>                        | <b>100.00</b>                       |
| <b>Coursework/Examination Ratio</b> | <b>50.00% / 50.00%</b>              |

### Assessment Methods and Assignment

| Assessment Methods and Assignment  | Alignment with Course Learning Outcomes  |
|------------------------------------|--|
| 1 Assignments : Field trip / essay | [SN: 001]<br>Demonstrate solid knowledge of the properties of microorganisms including classification, morphologic and growth characteristics, metabolism, genetics and pathogenesis.<br><br>[SN: 002]<br>Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding medical treatment and prevention.<br><br>[SN: 003]<br>Understand the impact of microbial infections in our world.<br><br>[SN: 005]<br>Apply and disseminate medical microbiological knowledge in scientific research and in everyday life. |
| 2 Examination : Final Examination  | [SN: 001]<br>Demonstrate solid knowledge of the properties of microorganisms including classification, morphologic and growth characteristics, metabolism, genetics and pathogenesis.<br><br>[SN: 002]<br>Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding  |

|  |  |
|--|--|
|  | <p>medical treatment and prevention.</p> <p>[SN: 003]<br/>Understand the impact of microbial infections in our world.</p>  |
| 3 Performance in class : PBL / tutorials   | <p>[SN: 002]<br/>Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding medical treatment and prevention.</p> <p>[SN: 003]<br/>Understand the impact of microbial infections in our world.</p>  |
| 4 Performance in class : Practical Classes | <p>[SN: 001]<br/>Demonstrate solid knowledge of the properties of microorganisms including classification, morphologic and growth characteristics, metabolism, genetics and pathogenesis.</p> <p>[SN: 002]<br/>Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding medical treatment and prevention.</p> <p>[SN: 003]<br/>Understand the impact of microbial infections in our world.</p> <p>[SN: 004]<br/>Demonstrate knowledge-based skills in working and collaborating together with fellow students in practical classes and in group presentation of scientific ideas.</p> <p>[SN: 005]<br/>Apply and disseminate medical microbiological knowledge in scientific research and in everyday life.</p> |
| 5 Presentation : Group Presentation        | <p>[SN: 002]<br/>Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding medical treatment and prevention.</p> <p>[SN: 003]<br/>Understand the impact of microbial infections in our world.</p> <p>[SN: 004]<br/>Demonstrate knowledge-based skills in working and collaborating together with fellow students in practical classes and in group presentation of scientific ideas.</p> <p>[SN: 005]<br/>Apply and disseminate medical microbiological knowledge in scientific research and in everyday life.</p>   |
| 6 Report                                   | <p>[SN: 005]<br/>Apply and disseminate medical microbiological knowledge in scientific research and in everyday life.</p>  |
| 7 Tests                                    | <p>[SN: 001]<br/>Demonstrate solid knowledge of the properties of microorganisms including classification, morphologic and growth characteristics, metabolism, genetics and pathogenesis.</p> <p>[SN: 002]<br/>Develop the ability to analyze, evaluate problems and interpret information related to microbial infections and corresponding medical treatment and prevention.</p> <p>[SN: 005]<br/>Apply and disseminate medical microbiological knowledge in scientific research and in everyday life.</p>   |

**Course Grade Descriptors** [Browse course grade descriptors](#)

| <b>Course URL</b>                              | Nil                                     |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |       |   |  |
|--|---|------------|------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------|-------------|-------|---|--|
| <b>Related Major/ Minor/ Professional Core</b> |   |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |       |   |  |
| <b>Description</b>                             | <b>Associated Credit Unit Statement</b> |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |       |   |  |
| BBiomedSc (4)                                  | Nil                                     |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |       |   |  |
| <b>Section C: Course Schedule</b>              |   |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |       |   |  |
| <b>Course Schedule for this year 2021-22</b>   |   |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |       |   |  |
| Semester                                       | Session                                 | Start Date | End Date   | Mon                      | Tue                      | Wed                                 | Thu                      | Fri                                 | Sat                      | Sun                      | Start Time  | End Time    | Venue | Teaching Staff  |  |
| 2021-22<br>Sem 1                               | 1A-LEC<br>(1883)                        | 01/09/2021 | 17/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | --    | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |  |
| 2021-22<br>Sem 1                               | 1A-LEC<br>(1883)                        | 01/09/2021 | 17/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | --    | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |  |
| 2021-22<br>Sem 1                               | 1A-LEC<br>(1883)                        | 01/09/2021 | 17/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | --    | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |  |
| 2021-22<br>Sem 1                               | 1A-LEC<br>(1883)                        | 24/09/2021 | 24/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | --    | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |  |
| 2021-22<br>Sem 1                               | 1A-LEC<br>(1883)                        | 24/09/2021 | 24/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | --    | Chi Wai Chan  |  |

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|                  |                  |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |    |  |  |  | Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen                 |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 24/09/2021 | 24/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 29/09/2021 | 29/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 29/09/2021 | 29/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 29/09/2021 | 29/09/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 06/10/2021 | 08/10/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu   |

|                  |                  |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |    |  |  |  |  |  |  |   |
|------------------|------------------|------------|------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------|-------------|----|--|--|--|--|--|--|---|
|                  |                  |            |            |                          |                          |                                     |                          |                                     |                          |                          |             |             |    |  |  |  |  |  |  | Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen  |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 06/10/2021 | 08/10/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 06/10/2021 | 08/10/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 20/10/2021 | 26/11/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 20/10/2021 | 26/11/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To<br>Kwok Hung Cha<br>Yi Tsun Kao<br>Zhiwei Chen |
| 2021-22<br>Sem 1 | 1A-LEC<br>(1883) | 20/10/2021 | 26/11/2021 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 02:30<br>PM | 04:20<br>PM | -- |  |  |  |  |  |  | Chi Wai Chan<br>Fuk Woo Chan<br>Huachen Zhu<br>Kai Wang To  |

Kwok Hung Cha

Yi Tsun Kao

Zhiwei Chen

Note: Teaching staff information will be printed once they are finalised.

#### Section D: Additional Course Information

Note: Information about course content and reading materials listed below is extracted from Moodle at scheduled intervals. Please refer to Moodle for up-to-date information.

##### Course Content and Topics

Course Content and Topic (12 x 2h lectures)

1. Bacteria
2. Viruses
3. Fungi, protozoa, helminthes, arthropods and prions
4. Host-parasite relationship
5. Entry, exit and transmission
6. Spread and replication
7. Infections according to body systems I
8. Infections according to body systems II
9. Diagnosis and control
10. Antimicrobials
11. Hospital infection, sterilization, and disinfection
12. Vaccination and immunotherapy

Course Content and Topic (4 x 2h = 8h Lab classes)

1. Bacteriology
2. Virology
3. Fungi, protozoa, helminthes, arthropods and prions
4. Antimicrobials

Course Content and Topic (10h group presentation)

1. Topics to be determined

Course Content and Topic (4 x 2h = 8h PBL/tutorials)

1. Topics to be determined

Course Content and Topic (20h field trip/essay)

1. Topics to be determined

##### Required/ Recommended Readings and Online Materials

TBC

##### Course Effectiveness Profile

| Academic Year | Academic Career | Enrollment # | Response # | Response Rate (%) | Mean Course Effectiveness | Course Coordinator's Comments |
|---------------|-----------------|--------------|------------|-------------------|---------------------------|-------------------------------|
| 1 2019        | UG              | 26           | 3          | 11                | 83.3                      |                               |
| 2 2018        | UG              | 28           | 6          | 21                | 65.0                      |                               |
| 3 2017        | UG              | 21           | 6          | 28                | 62.5                      |                               |

Note: If the number of response is less than 6, "Mean Course Effectiveness" will be masked. For further details, please refer to [Operational Guide for Student Feedback on Teaching & Learning](#).

#### Section E: University Information

##### Academic Misconduct and Plagiarism

Academic honesty



The University highly values honesty in the academic work submitted by students, and adopts a policy of zero tolerance on cheating in examinations and plagiarism in any work submitted for assessment. Any student who commits such an academic offence is liable to be considered by the University's Disciplinary Committee for possible disciplinary action which can result in serious consequences - including expulsion from the University.

Plagiarism is copying the work of another person without proper acknowledgement. There are two parts in the definition: copying and the absence of proper acknowledgement. As a result, it gives an impression to an ordinary reader that the work is the original work of the author when in fact it was copied from some others' work. Copying does not necessarily only mean copying word for word. Closely paraphrasing or substantial copying with minor modifications (such as changing grammar, adding a few words or reversing active/passive voices) is still copying for this purpose. It does not matter what the nature of the source is: it may be a book, an article, lecture notes or simply an assignment of another student, or in electronic form such as a website, an audio-visual production or other non-textual material, to name but a few. It does not matter whether the source has been published or not. Plagiarism covers any form of work submitted for assessment, including theses, dissertations, take-home examinations, assignments, projects and other forms of coursework.

Students are strongly advised to read the booklets "What is Plagiarism?" (<http://www.hku.hk/plagiarism/>) and "Plagiarism and How to Avoid it" (<http://www4.caes.hku.hk/plagiarism/>) and to consult your teachers if you have any questions on the definition of plagiarism and how to avoid it. Students are also advised to familiarise themselves with issues in relation to copyright as publicized in the section on "Copyright and Plagiarism" in the Student Handbook (<http://www.handbook.hku.hk/ug/>). These guidelines cover lecture notes, course materials, photocopies, internet materials as well as dissertations.

Students should read these guidelines carefully and revisit them from time to time.

### University Assessment Policy

Please refer to the [University Assessment Policy](#) available online.

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