Items of Course Outlines

1. Instructor(s) – Name and Contact Details
   Jiguang Wang, jgwang@ust.hk

2. Teaching Assistant(s) - Name and Contact Details
   TBD

3. Time and Venue – Lectures (L), Tutorials (T)

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<tr>
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<th>Monday</th>
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<tbody>
<tr>
<td>L1</td>
<td>13:30 - 14:50</td>
<td>4502</td>
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<td>L1</td>
<td>09:00 - 10:20</td>
<td>4502</td>
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<tr>
<td>T1</td>
<td>09:30 - 10:20</td>
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4. Course Description
   Brief description: this course will introduce the basic concept of data science, various types of high-throughput biomedical data, as well as proof-of-concept examples on the application of data science technologies in biology and medicine. Specifically, it will include principles in network biology, statistical analysis, basic machine learning, and practical methods for sequencing data processing and analytics. Students will be evaluated based on Attendance, the mid-term exam, the group project, and the student presentation.

5. Grading Scheme
   Assessment
   (Percentage + assessment tasks)
   10%   Attendance
   30%   Mid-term exam
   30%   Group project
   30%   Student presentation

6. Student Learning Resources - Lecture Notes, Readings
   Lecture notes and supplementary reading materials will be made available on canvas.

7. Tentative week-by-week course outline
   - W1: Introduction
   - W2: High-throughput biological data
   - W3: Biological networks
   - W4: Network analysis
   - W5: Correlation analysis
   - W6: Sequencing analysis
   - W7: Differential expression analysis
   - W8: Function enrichment analysis
   - W9: Machine learning
   - W10: Mid-term Exam
   - W11: Holiday
   - W12: Precision cancer medicine
   - W13-14: Student Presentation