HUMAN KINETICS (HK)

Department of Human Health and Nutritional Sciences, College of Biological Science

Human Kinetics is concerned with understanding capacities for, and limits of, human movement at different ages and with the role of physical activity in human health. Through the use of electives, students may structure a program emphasizing biomechanics and ergonomics, human population biology or nutrition, exercise and metabolism.

If lacking the fundamentals of word processing, spreadsheet use and data management, the student should select CIS*1200 Introduction to Computing as early in the program as possible.

Major (Honours Program)

B.Sc. students who were not admitted directly into the Human Kinetics major from high school and subsequently wish to transfer to the specialization must apply directly to the Department of Human Health and Nutritional Science by the last day of classes in the winter semester.

To be eligible after first year, applicants must have successfully completed 4.0 science credits in a B.Sc. specialization with an average of 70% or better in BIOL*1070 Discovering Biodiversity, BIOL*1080 Biological Concepts of Health and BIOL*1090 Introduction to Molecular and Cellular Biology. For students with a 65-69.9% average in these three courses, admission to the major will be competitive based on available spaces.

Students wishing to transfer after second year or third year must have an average of 70% or better in their last two semesters (total of best 4.00 science credits). For students with a 65-69.9%, admission to the major will be competitive based on available spaces.

All decisions regarding transfers will be made by the end of June.

To complete the major, a minimum of 20.00 credits are required.

Students lacking Grade 12 or 4U Biology, Chemistry or Physics should follow the revised schedule of study for this major found at https://www.uoguelph.ca/bsc/revised_SS/ (https://www.uoguelph.ca/bsc/revised_SS/)

### Credit Summary (20.00 Total Credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL*1070</td>
<td>Discovering Biodiversity</td>
<td>0.50</td>
</tr>
<tr>
<td>BIOL*1090</td>
<td>Introduction to Molecular and Cellular Biology</td>
<td>0.50</td>
</tr>
<tr>
<td>CHEM*1050</td>
<td>General Chemistry II</td>
<td>0.50</td>
</tr>
<tr>
<td>PHYS*1070</td>
<td>Physics for Life Sciences II</td>
<td>0.50</td>
</tr>
<tr>
<td>0.50 Liberal Education electives</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>BNUT*2040</td>
<td>0.50</td>
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<tr>
<td></td>
<td>STAT*2040</td>
<td>0.50</td>
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<tr>
<td></td>
<td>0.50 Liberal Education electives</td>
<td>0.50</td>
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</tbody>
</table>

All students must complete the following:

#### Semester 1

- BIOL*1070: Discovering Biodiversity (0.50 credits)
- BIOL*1090: Introduction to Molecular and Cellular Biology (0.50 credits)
- CHEM*1050: General Chemistry II (0.50 credits)
- PHYS*1070: Physics for Life Sciences II (0.50 credits)
- 0.50 Liberal Education electives

#### Semester 2

- BIOL*1080: Biological Concepts of Health (0.50 credits)
- MATH*1080: Elements of Calculus I (0.50 credits)
- PHYS*1080: Physics for Life Sciences (0.50 credits)
- 0.50 Liberal Education electives

#### Semester 3

- BIOL*2580: Introduction to Biochemistry (0.50 credits)
- HK*2270: Principles of Human Biomechanics (0.50 credits)
- MCB*2050: Molecular Biology of the Cell (0.50 credits)
- NUTR*3210: Fundamentals of Nutrition (0.50 credits)
- 0.50 electives
- 0.50 Liberal Education electives

#### Semester 4

- HK*2810: Human Physiology I - Concepts and Principles (0.50 credits)
- STAT*2040: Statistics II (0.50 credits)
- 0.50 Liberal Education electives

#### Semester 5

- HK*3600: Applied Human Kinetics I (0.75 credits)
- HK*3810: Human Physiology II - Integrated Systems (0.75 credits)
- NUTR*3360: Lifestyle Genomics (0.50 credits)
- HK*3401: Human Anatomy: Dissection or HK*3501: Human Anatomy: Prosection (0.75 credits)

#### Semester 6

- BIOC*3560: Structure and Function in Biochemistry (0.50 credits)
- HK*3100: Neuromuscular Physiology (0.50 credits)
- HK*4600: Applied Human Kinetics II (0.75 credits)
- Select one of the following:
  - HK*3402: Human Anatomy: Dissection 1 (0.75 credits)
  - HK*3502: Human Anatomy 2 (0.75 credits)

#### Semester 7

- HK*4550: Human Cardiorespiratory Physiology (0.50 credits)
- NUTR*4210: Nutrition, Exercise and Energy Metabolism (0.50 credits)
- 1.50 electives or restricted electives

#### Semester 8

- 1.50 electives or restricted electives
- 2.25 Liberal Education electives

#### Restricted Electives

A minimum of 2.00 credits of Liberal Education electives is required. The list of Liberal Education electives for B.Sc. students can be found at: https://www.uoguelph.ca/bsc/ (https://www.uoguelph.ca/bsc/)

A minimum of 1.00 credits of restricted electives are required which must be selected from HK*4XXX, NUTR*4XXX (must be an approved B.Sc. Science Elective).

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<tbody>
<tr>
<td>MBG*2040</td>
<td>Foundations in Molecular Biology and Genetics</td>
<td>0.50</td>
</tr>
<tr>
<td>STAT*2040</td>
<td>Statistics I</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>0.50 Liberal Education electives</td>
<td>0.50</td>
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<tbody>
<tr>
<td></td>
<td>First year science core</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Required science courses semesters 3 - 8</td>
<td>9.75</td>
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<tr>
<td></td>
<td>Restricted elective (# 2 in restricted elective list)</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Approved Science Electives</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td>Liberal Education Electives (#1 in restricted electives list)</td>
<td>2.00</td>
</tr>
</tbody>
</table>
Free Electives - any approved electives for B.Sc. students  2.00

**Total Credits**  
20

Of the total credits required, students are required to complete 16.00 credits in science of which a minimum of 2.00 credits must be at the 4000 level and an additional 4.00 credits must be at the 3000 or 4000 level.