Biochemical Engineering Laboratory (BENG0096)

Description
This course provides the hands-on skills and engineering practice to students via laboratory activities. It will enable students to understand and practice the research methods and techniques widely used in the department. The module comprises three large activities, each approximately one week long, where students will work full time in the laboratories. Briefing and preparation lectures will be provided prior to the activities and will aim to give the student an overview of the activity, the detailed schedule and will encourage them to engage with preparatory material.

Intended learning outcomes
Upon completion of the course, a student should be able to:

- be proficient in a variety of modern research methods and techniques used in the bioprocessing field
- be confident in setting up a laboratory scale bioreactor, preparing media, preparing the reactor for sterilisation procedure and be able to run in with all control settings
- be familiar with the set up and in situ sterilisation of a pilot scale bioreactor
- be familiar with set up and operation of large scale downstream operations (centrifuge, membrane filtration, homogenization and chromatography)
- experience hands-on column packing procedure
- practice basic sampling and analytical techniques (absorbance and fluorescence methods, protein concentration measurements)
- practice how to handle biological material according to safety guidelines
- apply theoretical knowledge for the analysis of experimental data and data correlation

Key information

<table>
<thead>
<tr>
<th>Year</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit value</td>
<td>15 (150 study hours)</td>
</tr>
<tr>
<td>Delivery</td>
<td>PGT L7, Campus-based</td>
</tr>
<tr>
<td>Reading List</td>
<td>View on UCL website</td>
</tr>
<tr>
<td>Tutor</td>
<td>Prof Martina Micheletti</td>
</tr>
<tr>
<td>Term</td>
<td>Academic year (terms 1, 2, and 3)</td>
</tr>
<tr>
<td>Timetable</td>
<td>View on UCL website</td>
</tr>
</tbody>
</table>

Assessment
- Coursework: 40.0%
- Coursework: 20.0%
- Coursework: 40.0%

Find out more
For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of March 2020. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
- familiarise with the research themes of the department and engage in depth in one specific topic
- appreciate and respect the safety issues around each operation and compile a Risk Assessment Form independently
Biochemical Engineering Laboratory (BENG0096)

Description
This course provides the hands-on skills and engineering practice to students via laboratory activities. It will enable students to understand and practice the research methods and techniques widely used in the department. The module comprises three large activities, each approximately one week long, where students will work full time in the laboratories. Briefing and preparation lectures will be provided prior to the activities and will aim to give the student an overview of the activity, the detailed schedule and will encourage them to engage with preparatory material.

Intended learning outcomes
Upon completion of the course, a student should be able to:

- be proficient in a variety of modern research methods and techniques used in the bioprocessing field
- be confident in setting up a laboratory scale bioreactor, preparing media, preparing the reactor for sterilisation procedure and be able to run in with all control settings
- be familiar with the set up and in situ sterilisation of a pilot scale bioreactor
- be familiar with set up and operation of large scale downstream operations (centrifuge, membrane filtration, homogenization and chromatography)
- experience hands-on column packing procedure
- practice basic sampling and analytical techniques (absorbance and fluorescence methods, protein concentration measurements)
- practice how to handle biological material according to safety guidelines
- apply theoretical knowledge for the analysis of experimental data and data correlation

Key information
Year 2020/21
Credit value 15 (150 study hours)
Delivery UGM L7, Campus-based
Reading List View on UCL website
Tutor Prof Martina Micheletti
Term Term 2
Timetable View on UCL website

Assessment
Coursework: 40.0%
Coursework: 20.0%
Coursework: 40.0%

Find out more
For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of March 2020. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
- familiarise with the research themes of the department and engage in depth in one specific topic
- appreciate and respect the safety issues around each operation and compile a Risk Assessment Form independently