Blended learning – Blending elements of distance learning and face-to-face teaching“

Melanie M. Erzinger
Lecturer & Oberassistentin
January 18 2022, Refresh Teaching
Food Chemistry Laboratory Course
Course description

<table>
<thead>
<tr>
<th>Number:</th>
<th>752-1030-00P</th>
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<tbody>
<tr>
<td>Departement:</td>
<td>D-HEST</td>
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<tr>
<td>Student cohort:</td>
<td>BSc D-HEST (Food Science)</td>
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<tr>
<td>Class size:</td>
<td>40-60</td>
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<tr>
<td>Teaching power:</td>
<td>1 lecturer, 2-3 teaching assistants</td>
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<td>Teaching format:</td>
<td>Laboratory course</td>
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| Learning objective: |  ● Students understand which analytical methods can be used to analyze the different food ingredients.  
  ● Students conduct experiments independently in the laboratory and document their experimental performance and results scientifically.  
  ● Students are prepared practically for their further studies and careers in the food quality and safety major. |
Food Chemistry Laboratory Course
Blended learning – Why and how did we start in 2016?

Preparation: remotely

Experiment: face-to-face

Reporting: remotely
Food Chemistry Laboratory Course
Blended learning – Why and how did we start in 2016?

- Students came unprepared to the lab

- Face-to-face time wasted for:
  - repeating explanations that were in the protocol
  - for explaining general lab rules and behavior
  - for basic lab work discussions
## Food Chemistry Laboratory Course

**Blended learning setting**

### Food Chemistry Laboratory

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<tr>
<td>Introduction to course</td>
<td>General preparation for lab work</td>
<td>Preparation Experiment 1</td>
<td>Experiment 1 in lab</td>
<td>Worksheet Experiment 1</td>
<td>Experiment 2 in lab</td>
<td>Worksheet Experiment 2</td>
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<td>Preparation Experiment 2</td>
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**moodle**  
Acquisition / Production / Investigation / Collaboration

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**ETHzürich**  
Laboratory of Food Biochemistry

21.01.2022
Food Chemistry Laboratory Course
Blended learning setting – Methods and Tools

Interactive Videos:

Virtual lab simulations (Labster):
- Self-tests and quizzes
- Instant lab reports
- Peer-review process
Food Chemistry Laboratory Course
Blended learning – Experiences

- Students come better prepared to the lab
- Students prefer the videos/simulations over reading a protocol
- Face-to-face time can be used more efficiently:
  - basics
  - advanced problems and discussions

- Clear course structure and communication needed
- Investment of resources (time and money)
Acknowledgments

- Prof. Laura Nyström, Dr. Samy Boulos
- Laboratory of Food Biochemistry: Nadja Steiger, Sabine Diedrich
- D-HEST teaching specialists: Sarah Frédérickx, Katrin Wolf
- LET: Dr. Pia Scherrer, Pascal Schmidt, Julia Kehl, Dr. Philip Barth
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