

# Master in Life Sciences

A cooperation between  
BFH, FHNW, HES-SO, ZFH

| <b>Module title</b>                      | <b>Innovation and Project Management</b>   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
|--|--|-----|----|----|----|----|----|----|----|-----|------|----|---|---|---|---|---|---|---|----|----------------|--|----|----|--|----|--|----|--|--|--------------|--|----|--|----|--|----|--|----|--|-------------------|-----|-----|--|--|--|--|--|--|--|-----|
| <b>Code</b>                              | B3   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Degree Programme</b>                  | Master of Science in Life Sciences   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Workload</b>                          | 3 ECTS (90 student working hours)<br>- Lessons contact (total 42 of which 28 central teaching): 32 h<br>- Self-study: 58 h   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Module Coordinator</b>                | <b>Name:</b> Dr. Robert Vorburger<br><b>Phone:</b> +41 58 934 54 72<br><b>Email:</b> <a href="mailto:robert.vorburger@zhaw.ch">robert.vorburger@zhaw.ch</a><br><b>Address:</b> ZHAW Life Sciences und Facility Management, Einsiedlerstrasse 31a, 8820 Wädenswil   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Lecturers</b>                         | Dr. Robert Vorburger, ZHAW   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Entry requirements</b>                | Module B1 "Business Administration for Life Sciences" recommended<br>Module B2 "Business Management and Leadership for Life Sciences" recommended  |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Learning outcomes and competences</b> | After completing the module, students will be able to: <ul style="list-style-type: none"> <li>• differentiate between innovation and creativity</li> <li>• understand the role of innovation management within a company</li> <li>• apply internationally approved project management methodologies</li> <li>• apply internationally approved requirements engineering techniques</li> <li>• differentiate between quality management and risk management</li> <li>• include patent law and intellectual property rules in new business opportunities.</li> </ul>  |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Module contents</b>                   | <ul style="list-style-type: none"> <li>• <i>Creativity Techniques:</i> Different methods to encourage creativity, including techniques for idea generation and divergent thinking</li> <li>• <i>Innovation Management:</i> How to shape a creative idea into a product or business model. The role of innovation management within a company</li> <li>• <i>Requirements Engineering:</i> Identify and specify the needs as soon and as exact as possible. General techniques of requirement engineering such as phrasing, categorising, and tracing of requirements</li> <li>• <i>Project Management:</i> Internationally approved sequential as well as agile project management methodologies, e.g. waterfall model and SCRUM, respectively.</li> <li>• <i>Quality Management:</i> International standards (e.g. ISO), validation and verification, common ground with risk management</li> <li>•</li> </ul>   |     |    |    |    |    |    |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Teaching / learning methods</b>       | This module has the following structure: <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Week</th> <th>&lt;1</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>&gt;7</th> </tr> </thead> <tbody> <tr> <td><b>Central</b></td> <td></td> <td>4L</td> <td>8L</td> <td></td> <td>8L</td> <td></td> <td>8L</td> <td></td> <td></td> </tr> <tr> <td><b>Local</b></td> <td></td> <td>2L</td> <td></td> <td>4L</td> <td></td> <td>4L</td> <td></td> <td>4L</td> <td></td> </tr> <tr> <td><b>Self-study</b></td> <td>20h</td> <td colspan="7">18h</td> <td></td> <td>20h</td> </tr> </tbody> </table> <p>A project builds the core of the module. The mission is to develop and manage a product. During the central teaching lessons, techniques, methods, and concepts are presented and discussed. Additional material for self-study will be provided to build a deeper understanding of the topics.</p> |     |    |    |    |    |    |    |    |     | Week | <1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | >7 | <b>Central</b> |  | 4L | 8L |  | 8L |  | 8L |  |  | <b>Local</b> |  | 2L |  | 4L |  | 4L |  | 4L |  | <b>Self-study</b> | 20h | 18h |  |  |  |  |  |  |  | 20h |
| Week                                     | <1   | 1   | 2  | 3  | 4  | 5  | 6  | 7  | >7 |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Central</b>                           |  | 4L  | 8L |    | 8L |    | 8L |    |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Local</b>                             |  | 2L  |    | 4L |    | 4L |    | 4L |    |     |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |
| <b>Self-study</b>                        | 20h  | 18h |    |    |    |    |    |    |    | 20h |      |    |   |   |   |   |   |   |   |    |                |  |    |    |  |    |  |    |  |  |              |  |    |  |    |  |    |  |    |  |                   |     |     |  |  |  |  |  |  |  |     |

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|---------------------------------------|--|
|                                       | <p>In line with the topics covered in the central lessons, a project is implemented in the decentral lessons. The students work together in small groups. In a first phase, the students will apply innovation techniques to come up with a product/service idea and will compile a business model canvas around the product/service. In the second phase, PM techniques will be applied to plan the development and production of the product.</p> <p>The project consists of milestones. Simulating a peer-reviewed process, each group reviews and discusses the progress of two other groups. The review further strengthens the understanding by offering a different point of view.</p> <p>The role of the teacher shifts in the decentral lessons from a lecturer to a coach.</p> |
| <b>Assessment of learning outcome</b> | <ol style="list-style-type: none"> <li>1. Final written exam, open book (on methodologies) (70%)</li> <li>2. Three assignments during the module; to be handed in within 2 weeks each (30%)</li> </ol>   |
| <b>Format</b>                         | 7-weeks  |
| <b>Timing of the module</b>           | <p>For ZHAW and FHNW: Spring semester, CW 15-21</p> <p>For BFH and HES-SO: Autumn semester, CW 45-51</p>   |
| <b>Venue</b>                          | <p>For ZHAW and FHNW: Olten</p> <p>For BFH and HES-SO: Fribourg</p>  |
| <b>Bibliography</b>                   | <p>Project Management Handbook Kuster, J., Huber, E., Lippmann, R., Schmid, A., Schneider, E., Witschi, U., Wüst, R Springer-Verlag, 2015</p> <p>The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm Kelly Tom Crown Publishing Group, 2007</p>  |
| <b>Language</b>                       | English  |
| <b>Links to other modules</b>         | Quality management is related to a company's <i>organisation</i> and, in particular, to <i>controlling and reporting</i> which is part of module B2.   |
| <b>Comments</b>                       | Material treated during local teaching is relevant for the exam.   |
| <b>Last Update</b>                    | 08.03.2019   |