1. INFORMATION ABOUT THE COURSE

A. Basic information

<table>
<thead>
<tr>
<th>Name of course</th>
<th>Basics of Horticulture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study level</td>
<td>First degree</td>
</tr>
<tr>
<td>Unit running the study programme</td>
<td>Faculty of Agriculture and Biotechnology, Department of Plant Physiology and basic biotechnology</td>
</tr>
<tr>
<td>Study programme</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Speciality</td>
<td></td>
</tr>
<tr>
<td>Name of teacher(s) and his academic degree</td>
<td>Norbert Keutgen, Professor</td>
</tr>
<tr>
<td>Introductory courses</td>
<td>Botany</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>no prerequisites</td>
</tr>
</tbody>
</table>

B. Semester/week schedule of classes

<table>
<thead>
<tr>
<th>Semester</th>
<th>Lectures</th>
<th>Classes</th>
<th>Laboratories</th>
<th>Project</th>
<th>Seminars</th>
<th>Field exercises</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>winter</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

2. EFFECTS OF EDUCATION (acc. to National Qualifications Framework)

Knowledge

on successful completion of the course students are familiar with the basic knowledge of horticultural practice. They are able to characterize the most important horticultural crops of Europe and define the conditions of their cultivation.

Skills

after successful completion of the course the student is supposed to be able to interpret local requirements on horticultural crops, to decide, which horticultural crops can be cultivated and which measures have to be taken for a successful cultivation.

Competences

on successful completion of the course student is supposed to co-operate with horticultural companies.

3. TEACHING METHODS

*multimedia lecture, discussion of recent questions related to the subject.*

4. METHODS OF EXAMINATION

lectures: final written or oral exams (depending on the number of students); preparation of a presentation (15-20 min.) on a selected subject

5. SCOPE

Lectures

Construction and development of fruit crops. Root: structure, function, growth, development, root systems, root structure, different root types and their function, growth behaviour during development, root growth in different species and varieties, principles of root physiology, endogenous and exogenous factors that influence root growth, characteristics of the root-shoot relationship, water uptake and water use, mineral absorption, synthesis of substances in the root. Interaction between shoot, root and the environment, interactions between root and shoot, effect of substrate, susceptibility to pathogens, mycorrhiza (different types of mycorrhiza, functions of mycorrhiza). Soil exhaustion – definition and symptoms, incidence and specificity, causes and influencing factors, prevention and control measures. Shoot - structure, function, growth and development, structure and function, growth and development, characteristics of stem formation, shoot growth and
bud formation, shoot and bud types, growth laws, pruning measures, planting systems (apple, pear, peach, nectarine, cherry, plum, apricot, walnut, pecan, grapes, raspberry, blueberry, strawberry). endogenous and exogenous factors affecting shoot growth, cropping systems, grafting, flowering and fruit yield formation, fertilization, quality management, plant hormones.

Seminars
Preparation of presentations: literature survey, layout, style of presentation. Subjects of the presentations: practical questions of horticulture, e.g. fruit and vegetable cultivars, planning of orchards, cultivation systems, possibilities of using, etc.

### 6. LITERATURE


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