<table>
<thead>
<tr>
<th><strong>Course Title</strong></th>
<th>Advanced Microbial Ecology</th>
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<tbody>
<tr>
<td><strong>Instructor</strong></td>
<td>Tomoyasu NISHIZAWA, Kazuhiko NARISAWA</td>
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<td><strong>Code</strong></td>
<td>MA051900</td>
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<tr>
<td><strong>Semester</strong></td>
<td>1st (April-)</td>
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<td><strong>Credit(s)</strong></td>
<td>1</td>
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<td><strong>Day／Period</strong></td>
<td>Mon, 2</td>
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<tr>
<td><strong>Description Code</strong></td>
<td>A-BIS-633</td>
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**Outline**
The advanced lecture contains an understanding of the environmental problems from the viewpoint of microbes-plants symbiosis in environmental soil.

**Keywords**
Nutrient cycling, Environmental microbes, Plant-microbes interaction, Microbial community analysis

**Goals**
Master course students can obtain the latest knowledge regarding environmental symbiotic sciences.

**Course Plan**
1. Introduction of advanced microbial ecology (TN)
2. Nature of the symbiotic association (KN)
3. The role of root associate microorganisms (KN)
4. plant-microbes interactions in environmental soil (TN)
5. Discussion and presentation : symbiotic association (KN)
6. Discussion and presentation: root associate microorganisms (KN)
7. Discussion and presentation: plant-microbes interactions (TN)
8. Group discussion regarding microbial community and diversity (TN)

[Diploma Policy] Academic and research skills in the specialized field, Extensive comprehension, International communication skills

**Advice for Preview and Review**
Course students attend the class and reveal incomprehensible things in the class.

**Prerequisite**

**Grading Criteria**
by the issues report (30%) and discussion (30%) including presentation (40%)

**Texts／References**
Reference books will be introduced in the class.