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| 登録コード                                  | HS530100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 開講年度 | 2026   |       |        |      |                           |  |
| 授業題目                                   | 栽培・園芸学特論                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |        |       |        | 担当教員 | 阿久津 雅子 他                  |  |
| 英文授業名                                  | Horticultural Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |        |       |        | 副担当  | 鈴木 香奈子・大迫 祐太朗             |  |
| 単位数                                    | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 講義期間 | 通年(集中) | 曜日・時限 | 集中・不定期 | 対象学生 | 博士1～2年                    |  |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |        | 授業形態  | 講義     | 備考   |                           |  |
| 信大コンピテンシー                              | 該当                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |        |       |        |      |                           |  |
| (1)授業の達成目標/course objectives           | ディプロマポリシー・授業で得られる「学位授与の方針」要素                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |        |       |        | ⇔    | (授業の達成目標)                 |  |
|                                        | 2026HS初, 2025HS初, 2024HS初, 2023HS初                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |        |       |        |      |                           |  |
|                                        | 【専攻】理工学系分野における課題の本質を見抜き解決方法を見出す洞察力                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |        |       |        | ⇔    | 自身の研究に対して、深い洞察力と考察力を身につける |  |
| (2)詳細/Detailed information             | <p>作物・園芸作物の栽培では生産性のみならず、生産における投入エネルギーの低減、環境負荷の軽減、生産物の安全性と品質の向上など多くの要素の総合的な向上が求められています。このような持続的栽培技術確立のための基盤は、植物の生理生態や栽培環境との相互関係を解明し、作物・園芸作物のもつ能力を生かし切っていくことにあります。本講義は、このようなことに関する理解を深めさせ、高度専門職業人や技術者、研究者としての資質向上を目標とします。</p> <p>Crop and horticultural crop production requires integrated improvements not only in productivity but also in a lot of aspects such as reducing energy input, environmental load, and improving safetiness and quality of products. The technological basis for the establishment of plant production is to make fulfill its potential by analyzing and understanding interrelation among plant ecophysiology, genetics and cultivation environment. This lecture will lead students to further get across what are needed in sustainable food production system, aiming to enhance their qualifications and quality as a specialist, technical expert, or researcher.</p> |      |        |       |        |      |                           |  |
| (3)授業の概要/Overview of course            | <p>1. 作物・園芸作物の栽培環境と作物成長との相互関係、例えば、土壌環境と作物成長との相互関係について解説します。</p> <p>2. 作物・園芸作物のストレス耐性を高めることは、作物生産におけるエネルギー投入を減少させるのに有効です。作物の水ストレスに関して解説します。</p> <p>3. 作物・園芸作物の生産性を制御するための栽培技術について解説します。</p> <p>1. Interrelation between cultivation environment and crop and horticultural crop growth, ex. interrelation between soil environment and crop growth, will be lectured.</p> <p>2. Enhancing stress tolerance of crops and horticultural crop effectively reduces energy input for crop and horticultural crop production. Water stress in crop and horticultural crop plants will be lectured.</p> <p>3. Cultivation technology to control crop and horticultural crop productivity will be lectured from a viewpoint of farm land ecosystem.</p>                                                                                                                                                           |      |        |       |        |      |                           |  |
| (4)授業計画/Course plan                    | <p>1 授業計画等ガイダンス</p> <p>2 作物・園芸作物の成長と環境の相互作用</p> <p>3 作物・園芸作物の成長とストレス</p> <p>4-7 フィールド調査実習(2日間)</p> <p>8-9 作物・園芸作物の生産性と栽培技術</p> <p>10-12学会参加立案</p> <p>13-14学会参加と議論および参加レポート作成</p> <p>15 統計処理演習 授業アンケート回答</p> <p>1 Explanation and guidance of this program</p> <p>2 Interrelation between crop and horticultural crop growth and environment</p> <p>3 Crop and horticultural crop growth and stress</p> <p>4-7 Practice of field survey (two days)</p> <p>8-9 Crop and horticultural crop productivity and cultivation technology</p> <p>10-12 Planning of presentation in an academic conference</p> <p>13-14 Presentation and discussion in an academic conference and conference report</p> <p>15 Practice of statistical data processing and analysis</p>                                                                                                                                             |      |        |       |        |      |                           |  |
| (5)成績評価の方法/Grading/evaluation method   | <p>講義中に実施する質疑や議論および課題レポートの提出により総合点を100点として評価します。得点が90点以上を秀、80～89点を優、70～79点を良、60～69点を可、59点以下を不可とします。出席が6割未満の場合は不可となります。</p> <p>Each student's performance will be evaluated by Q&amp;A and discussions during the lectures and report assignment. Full mark is 100 points. A cumulative score of 90+ points will be an "S" (excellent); 80 - 89 points will be an "A" (very good); 70-79 points will be a "B" (good); 60-69 points will be a "C" (pass); and less than 59 points will be a "Failure". Students with less than 60% attendance will fail the class.</p>                                                                                                                                                                                                                                                                                                                                     |      |        |       |        |      |                           |  |
| (6)成績評価の基準/Grading/evaluation criteria | <p>講義中に実施する質疑や議論および課題レポートの提出により,1)作物・園芸作物の栽培環境と作物成長との相互関係,2)作物・園芸作物のストレス耐性,3)生産性を制御するための栽培技術について、1)を理解していれば可、1)および2)を理解していれば良、1)～3)を理解していれば優～秀とします。</p> <p>Each student's performance will be evaluated by Q&amp;A and discussions during the lectures and report assignment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |        |       |        |      |                           |  |

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| (6)成績評価の基準<br>/Grading/evaluation criteria     | Each student's understanding for interrelation between cultivation environment and crop and horticultural crop growth will be a "C" (pass).<br>Each student's understanding for interrelation between cultivation environment and crop and horticultural crop growth and stress tolerance of crops will be a "B" (good).<br>Each student's understanding for interrelation between cultivation environment and crop and horticultural crop growth , stress tolerance of crops and Cultivation technology to control crop and horticultural crop productivity will be a "s"(excellent) or "A" (very good). |
| (7)事前事後学習の内容/Prep and review work              | 講義の内容とフィールド調査の内容を関連付けて、準備と復習を行って下さい。<br>Each student's try to preparation and review concerning lecture and field survey.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| (8)履修上の注意/Notes                                | 受講者の特性に合わせ、事前協議により、実験データの統計処理演習のほか、フィールドでの調査の実習、学会参加など学外での活動も授業に活用します。<br><br>Aspects of each student will be considered in prior consultation, and practice of statistical data processing of students' own experimental data, field survey, and such academic activities outside university as presentation in an academic conference will be accordingly included in this program.                                                                                                                                                                                                                     |
| (9)質問,相談への対応/Questions and requests for advice | E-mailで対応します。<br>春日 : skasuga@shinshu-u.ac.jp<br><br>Please contact through E-mail.<br>S. Kasuga : skasuga@shinshu-u.ac.jp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (10)授業の形式/Course format                        | 討論を含む双方向形式<br><br>Interactive format including discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 【教科書/Textbook(s)】                              | 教科書は特に指定しないが、適宜紹介します。<br><br>No specific textbook, but each professor will introduce instructional texts as needed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 【参考書/Reference work(s)】                        | 参考書は特に指定しないが、適宜紹介します。<br><br>No specified reference book will be used. Books for further study will be introduced as needed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |