

2026 年度シラバス

| 科目分類/Subject Categories | | | |
|-------------------------|--|--------------------|--------------------------------|
| 学部等/Faculty | /大学院工芸科学研究科（博士前期課程）： /Graduate School of Science and Technology (Master's Programs) | 今年度開講/Availability | /有 : /Available |
| 学域等/Field | /デザイン科学域 : /Academic Field of Design | 年次/Year | /1～2年次 : /1st through 2nd Year |
| 課程等/Program | /建築学専攻 : /Master's Program of Architecture | 学期/Semester | /第4クォータ : /Fourth quarter |
| 分類/Category | /授業科目 : /Courses | 曜日時限/Day & Period | /集中 : /Intensive |

| 科目情報/Course Information | | | | |
|-----------------------------|---|------------------------|--|-----------------------------------|
| 時間割番号 /Timetable Number | 63419915 | | | |
| 科目番号 /Course Number | 63461006 | | | |
| 単位数/Credits | 2 | | | |
| 授業形態 /Course Type | 講義 : Lecture | | | |
| クラス/Class | | | | |
| 授業科目名 /Course Title | 建築・景観のデジタル設計法 II : Digital Methods in Architecture and Landscape II | | | |
| 担当教員名 / Instructor(s) | /VOLLMER MATTHIAS : /VOLLMER MATTHIAS | | | |
| その他/Other | インターンシップ実施 科目 /Internship | 国際科学技術コース提供 科目 /IGP | PBL 実施科目 /Project Based Learning | DX 活用科目 /ICT Usage in Learning |
| | | ○ | ○ | ○ |
| | 実務経験のある教員による 科目 /Practical Teacher | ○ | Founder of SCANVISION, a ETH Spin-Off in Point Cloud Visualisation | |
| 科目ナンバリング /Numbering Code | | | | |

| 授業の目的・概要 /Objectives and Outline of the Course | |
|--|---|
| 日 | <p>点群データとサウンドを使用することは、その場所に対する個々の認識を作り出すユニークな方法です。隠された側面を発見し、言葉で説明することなく個々の考えを示すのに役立ちます。適切な方法で適用すれば、異なるスケールや視点を通してできるコミュニケーションの一形態となります。</p> <p>このコースでは、3D スキャンをソースとして使用します。建築とランドスケープにおけるデジタルデザイン手法 I」では、レーザースキャンとデータ処理の基本を学びますが、このコースでは、そのデータをどのように活用するかを学びます。その目的は、素材を処理</p> |
| 英 | <p>Using Point Cloud Data and Sound is a unique way to create an individual perception of a place. It can help to discover hidden aspects and to show individual thoughts without describing them in words. When applied in the right way, it becomes a form of communication that can pass through different scales and perspectives.</p> <p>In this course we will work with a 3D Scan as a source. While in "Digital Design Methods in Architecture and Landscape I" the basics of Laserscanning and data processing are taught, in this course we want to learn on how to use the data for further applications. The aim is to process the material and produce an audiovisual output through different forms. To do this, we use the open source software CloudCompare to segment the data and to create images, such as sections or perspectives. In a next step, we will create camera animations that will provide us with the moving images to finally render a film in Adobe Premiere. In a final step, we want to find out how we can use the game engine Unity to create a simple AR app that allows us to view our model in real space. Beside using the 3D Data, we will also use sound recording and editing to capture and recreate an acoustic atmosphere.</p> |

| 学習の到達目標 /Learning Objectives | |
|------------------------------|-----------------------|
| 日 | 点群データを編集して、特定の場所を描写する |

| | |
|---|---|
| | 輪郭線/メッシュ/...などの追加データを抽出する。 静止画のレンダリング ムービーをレンダリングするためのカメラアニメーションを作成する ゲームエンジンを使ってインタラクティブなアプリケーションを作成する |
| 英 | Edit Point Cloud Data to create a specific depiction of a place Extract additional Data like contour lines/meshes/... Render still images Create camera animations to render movies Create an interactive application using a Game Engine |

学習目標の達成度の評価基準 / Fulfillment of Course Goals (JABEE 関連科目のみ)

| | |
|---|--|
| 日 | |
| 英 | |

授業計画項目 / Course Plan

| No. | | 項目 Topics | 内容 Content |
|-----|---|---------------------------------|---------------------------------|
| 1 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 2 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 3 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 4 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 5 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 6 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 7 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 8 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 9 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 10 | 日 | This is a workshop-based course | This is a workshop-based course |

| | | | |
|----|---|---------------------------------|---------------------------------|
| | | course | |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 11 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 12 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 13 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 14 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |
| 15 | 日 | This is a workshop-based course | This is a workshop-based course |
| | 英 | This is a workshop-based course | This is a workshop-based course |

履修条件 /Prerequisite(s)

| | |
|---|--|
| 日 | |
| 英 | |

授業時間外学習（予習・復習等） /Required study time, Preparation and review

| | |
|---|--|
| 日 | 受講生はワークショップの全日程に出席する。ワークショップ終了後、学生は指導された内容を応用して仕上げ、最終的にレポートを提出する。 |
| 英 | Students are asked to attend the full workshop time. After the workshop, students are asked to apply and finish the taught content and finally to hand in a report on the work they have done. |

教科書／参考書 /Textbooks/Reference Books

| | |
|---|--|
| 日 | |
| 英 | |

成績評価の方法及び基準 /Grading Policy

| | |
|---|--|
| 日 | 出席、注意力、コミットメント、プロジェクトワーク、レポート |
| 英 | Attendance, attention and commitment, project work, report |

留意事項等 /Point to consider

| | |
|---|--|
| 日 | |
| 英 | |