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|------------------|------------|---|-------------|------------------------------------|---------|----------------------|----|------|----|------------|----|-----|----|--|----------------------|
| Akashi College | | | | Architecture and Civil Engineering | | | | Year | | 2021 | | | | | |
| Department Goals | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Course Category | | Course Title | Course Code | Credit Type | Credits | Class Hours per Week | | | | | | | | Instructor | Division in Learning |
| | | | | | | Adv. 1st Y | | | | Adv. 2nd Y | | | | | |
| | | | | | | 1st | | 2nd | | 1st | | 2nd | | | |
| | | | | | | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | |
| General | Compulsory | Ethics for Engineers | 0001 | Academic Credit | 2 | | | | | | | | | ITOH Hitoshi | |
| General | Elective | Management Sciences | 0002 | Academic Credit | 2 | 2 | | | | | | | | NAKA O Mitsuhiro | |
| General | Elective | Global Studies | 0003 | Academic Credit | 2 | 2 | | | | | | | | ARAKAWA Hironori | |
| General | Elective | Introduction to Nano Materials Design | 0005 | Academic Credit | 2 | 2 | | | | | | | | NAKANISHI Hiroshi | |
| General | Elective | Geophysics | 0006 | Academic Credit | 2 | | | | | | | | | YOKOYAMA Masahiko | |
| General | Elective | Culture and Communication | 0006 | Academic Credit | 2 | 2 | | | | | | | | INOUE Hidetoshi | |
| General | Elective | Oral English | 0007 | School Credit | 2 | 2 | | | | | | | | HERBERT John C. | |
| General | Elective | Overseas Training | 0008 | School Credit | 2 | 2 | | | | | | | | | |
| Specialized | Compulsory | Creative Faculty Development | 0009 | School Credit | 2 | | | | | | | | | NAKANISHI Hiroshi | |
| Specialized | Compulsory | Engineering Topics for Advanced Course Students | 0010 | Academic Credit | 2 | | | | | | | | | KANDA Keiichi, HIRAI SHI Toshihiro, NAKANISHI Hiroshi, NOMURA Hayato, ONISHI Shosaku | |
| Specialized | Compulsory | Engineering Presentation I | 0011 | School Credit | 1 | 2 | | | | | | | | NAKAI Yuichi, TAKEDA Naho | |
| Specialized | Compulsory | Industrial Materials | 0012 | Academic Credit | 2 | 2 | | | | | | | | SAKAI DA Akiyoshi, KAJIMURA Yoshihiro, TAKEDA Naho, HIRAI SHI Toshihiro | |

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|-----------------------------|----------------------------|--|------|------------------------|---|---|--|---|--|--|--|--|--|--|
| Sp eci ali ze d | El ec tiv e | Information Processing | 0013 | Acade mic Credit | 2 | 2 | | | | | | | INOUE Kazun ari | |
| Sp eci ali ze d | El ec tiv e | Analytical Mechanics | 0014 | Acade mic Credit | 2 | 2 | | | | | | | OGAS AWAR A Hiromi chi | |
| Sp eci ali ze d | El ec tiv e | Inclusive Design | 0015 | Acade mic Credit | 2 | 2 | | | | | | | OTSU KA Takehi ko,AKI TA Naoshi ge,AS AO Hiroya su,IW ATA Naoki, HIRAI Yasuy uki | |
| Sp eci ali ze d | Co m pu lso ry | Off-Campus Practical Training | 0016 | School Credit | 2 | 2 | | 2 | | | | | | |
| Sp eci ali ze d | Co m pu lso ry | Preliminary Research Studies | 0017 | School Credit | 4 | 4 | | 4 | | | | | | |
| Sp eci ali ze d | El ec tiv e | Advanced Strength of Structures | 0018 | Acade mic Credit | 2 | 2 | | | | | | | ISHIM ARU Kazuhi ro,NA KAGA WA Hajim e | |
| Sp eci ali ze d | El ec tiv e | Structural System I | 0019 | Acade mic Credit | 2 | | | 2 | | | | | ISHIM ARU Kazuhi ro,SH OJO Naoya | |
| Sp eci ali ze d | El ec tiv e | Construction Management | 0020 | Acade mic Credit | 2 | | | 2 | | | | | OTSU KA Takehi ko,SA NJYO Kenji | |
| Sp eci ali ze d | El ec tiv e | Advanced Geotechnical Engineering | 0021 | Acade mic Credit | 2 | | | 2 | | | | | NABES HIMA Yasuy uki,EB ISU Takes hi | |
| Sp eci ali ze d | El ec tiv e | Transportation Planning | 0022 | Acade mic Credit | 2 | 2 | | | | | | | ISHIM ATSU Kazuhi to | |
| Sp eci ali ze d | El ec tiv e | Planning and Design of Urban Streetscape and Towns | 0023 | Acade mic Credit | 2 | | | 2 | | | | | MIZUS HIMA Akane | |
| Sp eci ali ze d | El ec tiv e | History of World City | 0024 | Acade mic Credit | 2 | | | 2 | | | | | HIGAS HINO Adrian a P. | |
| Sp eci ali ze d | El ec tiv e | Practice of Regional Planning I | 0025 | School Credit | 2 | | | 4 | | | | | OTSU KA Takehi ko | |
| Sp eci ali ze d | El ec tiv e | Applied Structural Engineering in Architecture | 0026 | Acade mic Credit | 2 | | | 2 | | | | | NAKA GAWA Hajim e | |

| | | | | | | | | | | | | | | | |
|-------------|------------|-------------------------------------|------|-----------------|---|---|--|--|--|--|---|---|---|-------------------------------------|--|
| General | Elective | Japanese Language and Communication | 0029 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | KURODA Hidenori | |
| | | | | 2 | | | | | | | | | | | |
| General | Elective | Cross-Cultural Understanding | 0030 | School Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td>2</td><td></td></tr></table> | | | | | 2 | 2 | | MATSUDA Yasutaka,HERBERT John C. | |
| | | | | 2 | 2 | | | | | | | | | | |
| General | Elective | Environmental Science | 0041 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | WATANABE Moriyo shi,HIRAI Toshihiro | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Compulsory | Research Studies | 0029 | School Credit | 8 | <table><tr><td></td><td></td><td></td><td></td><td>8</td><td>8</td><td></td></tr></table> | | | | | 8 | 8 | | | |
| | | | | 8 | 8 | | | | | | | | | | |
| Specialized | Elective | Advanced Structural System II | 0030 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | MIYOSHITA Takao | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Compulsory | Engineering Presentation II | 0031 | School Credit | 1 | <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td></tr></table> | | | | | | | 2 | HIRAISHI Toshihiro,ONISHI Shosaku | |
| | | | | | | 2 | | | | | | | | | |
| Specialized | Elective | Hydraulic Engineering I | 0031 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | WATANABE Moriyo shi | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Elective | Hydraulic Engineering II | 0032 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td></tr></table> | | | | | | | 2 | KANDA Keiichi | |
| | | | | | | 2 | | | | | | | | | |
| Specialized | Elective | Geotechnical Engineering System | 0033 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | NABESHIMA Yasuyuki | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Elective | Planning System | 0034 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | ISHIMATSU Kazuhiro | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Elective | Disaster Prevention System I | 0035 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | ISHIMARU Kazuhiro | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Elective | Disaster Prevention System II | 0036 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td></tr></table> | | | | | | | 2 | SUMIO Hiroyuki | |
| | | | | | | 2 | | | | | | | | | |
| Specialized | Elective | Planning of Living Environment | 0037 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | KUDOH Kazumi,MOTOKAZU A Tomoki | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Elective | Structural Design in Architecture | 0038 | Academic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>2</td><td></td><td></td></tr></table> | | | | | 2 | | | KAKUNO Yoshinori | |
| | | | | 2 | | | | | | | | | | | |
| Specialized | Elective | Practice of Regional Planning II | 0039 | School Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td>4</td><td></td><td></td></tr></table> | | | | | 4 | | | KUDOH Kazumi | |
| | | | | 4 | | | | | | | | | | | |

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|-----------------------------|----------------------|--|------|------------------------|---|--|--|--|--|--|--|--|---|----------------------------|--|
| Sp eci ali ze d | El ec tiv e | Construction Theory for Human- Environment | 0040 | Acade mic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td></tr></table> | | | | | | | 2 | OTSU KA Takehi ko | |
| | | | | | | 2 | | | | | | | | | |
| Sp eci ali ze d | El ec tiv e | 日本の都市形成史 | 0042 | Acade mic Credit | 2 | <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td></tr></table> | | | | | | | 2 | MIZUS HIMA Akane | |
| | | | | | | 2 | | | | | | | | | |

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|---|---|---------------------------------------|---|--|---|
| Akashi College | | Year | 2021 | Course Title | Ethics for Engineers |
| Course Information | | | | | |
| Course Code | 0001 | | Course Category | General / Compulsory | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | ITOH Hitoshi | | | | |
| Course Objectives | | | | | |
| (1) Understand the characteristics of an engineer's job and what kind of ethical responsibilities engineers have in response to them. (2) Understand what ethical issues engineers may face in their day-to-day work. (3) Have sufficient knowledge of the important social systems related to engineers when dealing with the above-mentioned issues. (4) Develop the ability to devise effective solutions for typical ethical issues that engineers will encounter, based on the understanding and knowledge of (1) to (3). Of these, (1) to (3) are related to learning and education goal (C), and (4) is related to learning and education goal (A). In order to achieve the goals, students will need to study the prescribed textbooks in advance. | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Fully understand the characteristics of an engineer's job and their ethical responsibilities. | | Understand the characteristics of an engineer's job and their ethical responsibilities. | | Do not fully understand the characteristics of an engineer's job and their ethical responsibilities. |
| Achievement 2 | Fully understand what ethical issues engineers may face. | | Understand what ethical issues engineers may face. | | Do not understand what ethical issues engineers may face. |
| Achievement 3 | Have sufficient knowledge of the important social systems related to engineers. | | Have knowledge of the important social systems related to engineers. | | Do not have knowledge of the important social systems related to engineers. |
| | Fully have the ability to devise effective solutions for ethical issues that engineers will encounter. | | Have the ability to devise effective solutions for ethical issues that engineers will encounter. | | Do not have the ability to devise effective solutions for ethical issues that engineers will encounter. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (C) | | | | | |
| Teaching Method | | | | | |
| Outline | The daily lives of people today are based on highly developed science and technology. This science and technology is used by highly trained engineers who have a responsibility to society to use it properly based on their expertise. This responsibility is now becoming more important, and social interest is growing, too. This course will examine the specific details of this responsibility that engineers bear, what problems may arise in achieving it, and how to deal with that. | | | | |
| Style | Classes will be held in a lecture style. At the end of each class, students should write and submit a summary of the class content, their opinions, etc. and this will be evaluated as a small report. The liaison for this course is Omota. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The class will use videos, newspaper articles, etc., and take many examples from recent accidents and corporate morals. Reference materials and other materials are introduced as appropriate during the class. Therefore, we would like students to show interest in areas other than their specialty field. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | Why engineering ethics? Why is it necessary for those who aspire to be engineers to learn ethics? Clarify the links between engineers and ethics through today's social background, the codes of ethics established by the engineering academic societies, etc., and learn and confirm their significance. | Understand the links between engineers and ethics based on today's social background and the code of ethics. | |
| | | 2nd | The space shuttle Challenger accident 1 Deal with the space shuttle Challenger accident, the most famous case in engineering ethics, and discuss the decisions made by the engineers and executives in the organization. | Understand the characteristics and relationships of the decisions made by the engineers and executives. | |
| | | 3rd | The space shuttle Challenger disaster 2 Following the previous class, use the case of the Challenger accident as a guide and consider what responsibilities engineers have for making organization risk management function effectively. | Understand the responsibilities and abilities required of engineers for organization risk management. | |

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| | | 4th | The Tokaimura JCO criticality accident 1 Use the JCO criticality accident as an example to consider the significance of improvement activities that have supported the Japanese manufacturing industry, the challenges facing them, and how engineers should engage with them. | Understand the significance and challenges of improvement activities. |
| | | 5th | The Tokaimura JCO criticality accident 2 Following the previous class, use the JCO criticality accident to discuss group thinking, which collective organizations are prone to, and how technicians should deal with it to ensure safety and quality. | Learn the characteristics of group thinking and the abilities needed to deal with it and secure safety. |
| | | 6th | Whistleblowing 1 Discuss the purpose of the recently introduced whistleblower protection system, criticisms of the current laws, and the relationship between this system and engineers. | Acquire knowledge of the whistleblower protection system, and understand its issues. |
| | | 7th | Whistleblowing 2 Following the previous class, deal with whistleblowing. An increasing number of companies have established help desks, etc. as part of their efforts to enhance their compliance systems. Examine this trend's significance in the relationship between organizations and individuals. | Understand what needs to be kept in mind to ensure proper organizational behavior. |
| | | 8th | Product Liability Act Review the details of the Product Liability Act—which is said to be the most relevant law for engineers—and discuss that it is important for engineers to establish it as a manufacturing belief. | Gain appropriate knowledge of the Product Liability Act and become able to use it as a manufacturing belief. |
| | 4th Quarter | 9th | Intellectual properties Confirm the significance of the patent, copyright, and other systems for technology development, and examine the issues, etc., facing them that accompany information technology development, etc. | Acquire knowledge of intellectual property rights and understand their significance in manufacturing. |
| | | 10th | The Bhopal disaster 1 Use the agricultural chemicals factory accident in Bhopal, India—the biggest industrial accident in history—as an example to discuss the further increasing problems associated with overseas industrial activities as globalization progresses. | Acquire knowledge of the issues faced in overseas industrial activities. |
| | | 11th | The Bhopal disaster 2 Based on the previous class, examine the fact that there is a need for engineers to take into account that technology development is deeply related to the interaction between social conditions, culture, history, and thoughts, etc., that surround it. | Deepen understanding of the previous class and learn effective methods for overseas industrial activities. |
| | | 12th | The Roppongi Hills revolving door accident 1 Introduces the activities of the Door Project, which took place after the revolving door accident, and discuss the ideas and significance of failure studies and topics such as Heinrich's law in risk management. | Acquire knowledge of failure studies and Heinrich's law. |
| | | 13th | The Roppongi Hills revolving door accident 2 Based on the previous class, discuss how engineers also have their own culture as engineers, and that it is important to pass down knowledge to overcome the problems that result from this. | Understand that in order to understand and use technology effectively, it is necessary to properly understand and communicate technology ideas. |
| | | 14th | Universal design Confirm that there is a political aspect to new technology development that gives birth to new power struggles and discrimination, whereas universal design is an attempt to democratize it. | Understand the concept of universal design and the systems necessary for achieving it. |
| | | 15th | The scope of engineering ethics New technology developments by engineers have had a variety of impacts in sectors such as information society and medical care. Consider the sort of relation that engineers should have to ethics in these other areas. | Understand the relationship between engineers and modern society and what their place in it should be. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Final Report | Short Reports & Presentation | Total |
|-------------------------|--------------|------------------------------|-------|
| Subtotal | 60 | 40 | 100 |
| Basic Proficiency | 60 | 40 | 100 |
| Specialized Proficiency | 0 | 0 | 0 |
| Cross Area Proficiency | 0 | 0 | 0 |

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|--|---|--|--|--|----------------------------------|--|
| Akashi College | | Year | 2021 | | Course Title | Global Studies |
| Course Information | | | | | | |
| Course Code | 0003 | | | Course Category | General / Elective | |
| Class Format | Lecture | | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | | Student Grade | Adv. 1st | |
| Term | First Semester | | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | 教科書：渋谷淳一・本田量久編『21世紀国際社会を考える 多層的な世界を読み解く 38章』旬報社/参考図書 伊藤陽一他編『グローバル・コミュニケーションキーワードで読み解く生命・文化・社会』ミネルヴァ書房 | | | | | |
| Instructor | ARAKAWA Hironori | | | | | |
| Course Objectives | | | | | | |
| (1)世界で活躍するエンジニアとしての国際的資質を持つことができる（学習・教育到達目標（A）（B）（C））。 (2)流動化する現在の国際情勢が理解できる（学習・教育到達目標（A）（B））。 (3)21世紀と新しい国際社会の行方についての理解・考察ができる（学習・教育到達目標（A）（B））。 (4)民族そして国家の概念が理解でき、説明ができる（学習・教育到達目標（A）（B））。 (5)越境する社会の基礎的な理解ができる（学習・教育到達目標（A）（B））。 (6)国際関係に関する自らの学びを経て、興味を持った問題を深く掘り下げ、フィールドワークも含めた研究を遂行し、その結果に基づき、プレゼンテーションや論文の作成を行うことができる（学習・教育到達目標（B）（E）（H））。 (7)グローバルに関わる諸問題に関して討論を行うことができる（学習・教育到達目標（B）（E）（H））。 | | | | | | |
| Rubric | | | | | | |
| | 理想的な到達レベルの目安 | | 標準的な到達レベルの目安 | | 未到達レベルの目安 | |
| 評価項目1 | 世界で活躍するエンジニアとしての国際的資質を持つことができる。 | | 世界で活躍するエンジニアとしての国際的資質を持つことがほぼできる。 | | 世界で活躍するエンジニアとしての国際的資質を持つことができない。 | |
| 評価項目2 | 流動化する現在の国際情勢が理解できる。 | | 流動化する現在の国際情勢がほぼ理解できる。 | | 流動化する現在の国際情勢が理解できない。 | |
| 評価項目3 | 21世紀と新しい国際社会の行方についての理解・考察が十分できる。 | | 21世紀と新しい国際社会の行方についての理解・考察がほぼできる。 | | 21世紀と新しい国際社会の行方についての理解・考察ができない。 | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (B) 学習・教育目標 (C) 学習・教育目標 (E) 学習・教育目標 (H) | | | | | | |
| Teaching Method | | | | | | |
| Outline | 本講義はグローバル社会での諸問題に触れ、社会科学および国際社会学の基本的な考え方について理解したのち、学生が国際社会に関するトピックを選んで、主体的に調査・発表し、討論することを中心とした授業である。技術者、研究者として必要なグローバルイシューに関しての知識を身につけ、諸問題に関する自らの将来を踏まえた上での考え方や社会へアプローチする能力を積極的に養うことを目的とする。 | | | | | |
| Style | 教科書、参考書を使うが、その都度起こる世界の諸問題もテーマとして発表を主体とした授業とする。国際社会情勢に関する講義のあと、各学生が興味を持った教科書・参考書に沿ったテーマを選び、深く掘り下げ、できればフィールドワーク・調査（オンラインでも構わない）も含めた研究を行う。その研究の結果をプレゼンテーション発表し、最終的には論文作成を義務づける。プレゼンテーションにおいては、自らの調査とともに、教科書や授業で出た言説の解釈も評価の対象となるため、各書籍を読み込む予習が必須である。 | | | | | |
| Notice | 本科目は、授業で保証する学習時間と予習・復習及び、プレゼンテーション・課題論文作成に必要な標準的な自己学習時間の総計が、90時間に相当する学習内容である。グローバルスタディーズはまさに社会情勢によって刻々と変化する学問でもある。日頃から時事問題への関心を持ちながら授業に臨むこと。各発表者は担当するトピックのレジュメを作成する必要があり、聴衆はそのプレゼンテーションに対する質問が評価の対象となる。そのため各発表に関する教科書の該当部分には必ず目を通しておくこと。主体的な参加態度が必須となる。 合格の対象としない欠席条件(割合) 1/3以上の欠課 | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input checked="" type="checkbox"/> Active Learning | | <input checked="" type="checkbox"/> Aided by ICT | | <input checked="" type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester | 1st Quarter | 1st | グローバルスタディーズとは国際社会はいかにして作られるのか、国際関係理論はなぜ必要なのかを考える。 | 普段学習している自然科学と社会科学との違い、国際社会について十分理解する。 | | |
| | | 2nd | MDGsとSDGs 国際社会における新たな目標設定のあり方に注目し、国際協調について考える。 | 新たな国際的な持続可能な開発目標に関する理解をし、日本の工業社会における役割についても理解する。 | | |
| | | 3rd | 現代国際政治経済国際政治経済学と国際金融危機の実態について学び、市場や法制度を踏まえ検討する。 | 工業と密接に関連する国際政治・国際経済の基本的な仕組みについて理解する。 | | |
| | | 4th | 安全保障・国際協力・国益 国際社会の変容と安全保障概念の再社会化について学び、国家と国際との関係について検討、考察する。 | 国家と国際の関係について理解をし、自らの言説が持ち、表現できる。 | | |
| | | 5th | 国際社会学（移民問題・EU）① アメリカにおける移民政策・EUにおける諸問題について、事例に基づいて各学生が発表し、討論などを通じて認識を深める。 | アメリカ・ヨーロッパにおける移民の現状を理解し、移民政策の是非について、自らの考えが持てる。 | | |
| | | 6th | 国際社会学（移民問題）② 旧ソ連・ドイツ・イギリスにおける移民の諸問題を各事例に基づき、学生が発表する。その問題点、これらに向けての討論を行う。 | 難民問題も含め、諸国で起きている諸問題の理解をし、国家と国民の関係について考察ができる。 | | |

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|--|-------------|------|---|--|
| | | 7th | 小テスト・課題レポートに向けてグローバルスタディーズにおける言説の確認、各諸問題に関する諸学生の理解度を問う。各学生の発表に関わる課題レポートの進捗具合や、内容に関する指導を行う。 | 各学生が国際社会において、まず何に興味があるのかを知り、それを文章によって表現をする大切さを理解する。 |
| | | 8th | アジアにおける諸問題① 東アジア地域（中国・台湾・朝鮮半島）における政治・歴史・経済的な諸問題に関して学生が発表する。地理的にも近い、日本との関係についても各学生が考察を行い、討論を実施する。 | 地理的に日本に近い東アジアの諸問題を地政学的にも理解する。 |
| | 2nd Quarter | 9th | アジアにおける諸問題② 東南アジア・オセアニアにおける諸問題に関し、実際の調査なども含めて各学生が発表する。 | 本校の学術交流も多い、東南アジア・オセアニアを全般的に理解する。 |
| | | 10th | アジアにおける諸問題③ 沖縄から考える国際社会についての考察を促す。南アジアの民族問題や、「幸せの国ブータン」における幸福度調査の現状について、実施教員が実施した実地調査報告も行い、国家戦略について考える。 | 文明の交差点でもある沖縄の地政学的な役割について理解する。ブータンを含めた南アジア諸国の地政学的な諸問題について理解する。 |
| | | 11th | 開発、貧困、差別への挑戦① ネパール・タイ・カンボジアの事例を掘り下げて各学生が発表し、開発の是非について討論する。 | 日本が積極的に開発に携わってきた地域は東南アジア・南アジアであったことを、その理由も含めて理解する。 |
| | | 12th | 開発、貧困、差別への挑戦② 南アジアにおけるジェンダー・アフリカ・ラテンアメリカにおける開発の最新事例から、国際的な開発はどのようなものであるべきかを考察する。実際に日本の政府開発組織である、JICAについての理解も深める。 | SDGsの中でも貧困の解消は喫緊の事案であることを理解し、その問題解決のために各学生が工業人として何ができるのかということを考えることができる。 |
| | | 13th | 21世紀と新しい国際社会の行方① グローバル化とその逆説について、最新の言説を提示し、その検討を発表・討論を通じて行う。 | グローバリズム・ローカリズム・グローカリズムについての理解をし、具体的な企業の動き、社会運動に関する知識を有することができる。 |
| | | 14th | 21世紀と新しい国際社会の行方② 現代の国際社会におけるテロリズムの論点について、そのダイナミズムを理解した上で、考察を行う。 | 国際的なテロの実態、現状についての理解ができる。その抑止のために諸国がどのような対策を実施しているのかについての理解ができる。 |
| | | 15th | 21世紀と新しい国際社会の行方③ 環境配慮行動の現実を環境先進国の現状から知り、国際的に取り巻く環境の問題と工業人との関わりを考察する。 | これまでに出了、グローバルスタディーズの諸言説を理解する。工業人として国際的諸問題にどう対処するのかについての意見を持つことができる。 |
| | | 16th | 期末試験 | 期末レポートとともに期末試験を課す |

Evaluation Method and Weight (%)

| | 課題・試験 | 発表 | 相互評価 | 態度(出席点および授業での質問) | ポートフォリオ | その他・小テスト | Total |
|----------|-------|----|------|------------------|---------|----------|-------|
| Subtotal | 50 | 20 | 0 | 20 | 0 | 10 | 100 |
| 基礎的能力 | 25 | 10 | 0 | 20 | 0 | 0 | 55 |
| 専門的能力 | 15 | 0 | 0 | 0 | 0 | 10 | 25 |
| 分野横断的能力 | 10 | 10 | 0 | 0 | 0 | 0 | 20 |

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|--|--|---------------------------------------|---|--|--|--|--|
| Akashi College | | Year | 2021 | | Course Title | Introduction to Nano Materials Design | |
| Course Information | | | | | | | |
| Course Code | | 0005 | | Course Category | | General / Elective | |
| Class Format | | Lecture | | Credits | | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 1st | |
| Term | | First Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | 配布プリント | | | | | |
| Instructor | | NAKANISHI Hiroshi | | | | | |
| Course Objectives | | | | | | | |
| (評価項目1) 講義を通して量子力学を理解し、ナノマテリアルデザインへの応用方法を取得する。(D) (評価項目2) 演習を通して量子力学の理解を深め、演義を通して他者にわかりやすく伝えるプレゼンテーションスキルを養う。(D、E) (評価項目3) 自らの専門分野へナノマテリアルデザインを応用・展開する基礎スキルを養う。(D、E、H) | | | | | | | |
| Rubric | | | | | | | |
| | 理想的な到達レベルの目安 | | 標準的な到達レベルの目安 | | 未到達レベルの目安 | | |
| 評価項目1 | ナノマテリアルデザインの方法論を説明できる。 | | マテリアルの特性が量子力学に基づいていることを説明できる。 | | マテリアルの特性が量子力学に基づいていることを説明できない。 | | |
| 評価項目2 | 量子力学に必要な基礎的演算方法を他者に教えることができ、その意味するところを説明できる。 | | 量子力学に必要な基礎的演算を独力で行うことができる。 | | 量子力学に必要な基礎的演算を独力で行うことができない。 | | |
| 評価項目3 | ナノマテリアルデザイン手法を自らの専門分野へ応用展開できる。 | | 自らの専門分野へのナノマテリアルデザイン手法応用の可能性を考え、提示することができる。 | | ナノマテリアルデザイン手法応用の可能性を考えることができない。 | | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (E) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | 現代および未来の科学技術を支えるマテリアルをデザインするナノマテリアルデザインを学ぶことを通して科学的思考方法を習得することを目指す。マテリアルを構成する原子核および電子の運動を記述する量子力学の概要を学び、それを用いてマテリアルの成り立ち、性質（物性）が如何に解き明かされるかを学ぶ。最後に、様々な工学分野において今後必要とされる高性能材料をデザインする最先端のナノマテリアルデザイン手法について学ぶ。 | | | | | | |
| Style | 講義により、全体の概要説明と必要な前提知識を取得する。その後、自ら考え、手を動かし計算する演習を通して各項目を学習する。さらに自らの解法を他者に説明することにより、理解度を深化させる。質疑応答を通じて取得した知識を多面的に解釈しなおし、自身の中で体系づけ、量子力学に裏付けられたナノマテリアルデザイン手法を習得する。 | | | | | | |
| Notice | 本科目は、授業で保証する学習時間と、予習・復習及び課題レポート作成に必要な標準的な自己学習時間の総計が、90時間に相当する学習内容である。 合格の対象としない欠席条件(割合) 1/3以上の欠課 | | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input checked="" type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input checked="" type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
| | | | | | | | |
| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 1st Semester | 1st Quarter | 1st | 量子力学概論（前半） 量子力学の概要をニュートン力学と比較しながらその差異を学ぶ。 | | 量子力学とニュートン力学における運動の捉え方の違いを説明することができる。 | | |
| | | 2nd | 量子力学概論（後半） 量子力学における運動の記述方法を学ぶ。 | | 量子力学における運動状態の表現方法を説明することができる。 | | |
| | | 3rd | 量子力学の基礎 1（オペレーター代数） 量子力学に必要なオペレーター代数について学ぶ。 | | 演算子の基本ルールを習得し、演算を行うことができる。 | | |
| | | 4th | 量子力学の基礎 2（シュレーディンガー方程式） 量子力学における基礎方程式であるシュレーディンガー方程式を学ぶ。 | | 波束と粒子運動の関係を説明できる。 | | |
| | | 5th | 量子力学の基礎 3（交換関係Ⅰ：座標と運動量） 座標と運動量の交換関係を学ぶ。 | | 座標と運動量の演算子を含む交換関係を計算できる。 | | |
| | | 6th | 量子力学の基礎 4（交換関係Ⅱ：角運動量） 角運動量に関する交換関係を学ぶ。 | | 角運動量演算子を知り、角運動量演算子を含む交換関係を計算できる。 | | |
| | | 7th | 量子力学の基礎 5（エルミート演算子） エルミート演算子について学ぶ。 | | エルミート演算子の性質を知り、物理量の期待値の時間発展（変化）を計算できる。 | | |
| | | 8th | 量子力学の基礎 6（井戸型ポテンシャル） 井戸型ポテンシャルに束縛された粒子の量子状態を学ぶ。 | | 井戸型ポテンシャルに閉じ込められた粒子の量子状態を計算できる。 | | |
| | 2nd Quarter | 9th | 量子力学の基礎 7（一次元散乱問題、トンネル効果） 散乱問題について学び、トンネル効果を知る。 | | 矩形ポテンシャルを透過するトンネル確率を計算できる。 | | |
| | | 10th | 量子力学の基礎 8（調和振動子） 調和振動子の量子状態を学ぶ。 | | 調和ポテンシャルに閉じ込められた粒子の量子状態を計算できる。 | | |
| | | 11th | 量子力学の基礎 9（格子比熱） アインシュタイン比熱を学ぶ。 | | アインシュタイン比熱を計算できる。 | | |
| | | 12th | 原子の電子配置 1 クーロン力で束縛された電子の量子状態を学ぶ。 | | 原子に閉じ込められた電子状態を説明できる。 | | |
| | | 13th | 原子の電子配置 2（スピン、量子統計） スピンの存在および量子統計の概論を学び、元素の周期律を学ぶ。 | | 元素の周期律を量子力学に基づいて説明できる。 | | |

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| | | 14th | 物質の凝集機構（イオン結合、共有結合、金属結合） 物質の凝集機構を学ぶ。 | 物質の凝集機構を量子力学に基づいて説明できる。 |
| | | 15th | 密度汎関数理論、計算機マテリアルデザイン 密度汎関数理論およびそれに基づいた第一原理計算、 およびそれを用いたナノマテリアルデザインを学ぶ。 | ナノマテリアルデザイン手法の原理を説明できる。 |
| | | 16th | 期末試験 | 演習を独力で解くことができる事を確認する。自らの 領域への応用展開を考えることができる。 |

| Evaluation Method and Weight (%) | | | | | | | |
|----------------------------------|----|-------|------|----|---------|-----|-------|
| | 試験 | 演習・発表 | 相互評価 | 態度 | ポートフォリオ | その他 | Total |
| Subtotal | 70 | 30 | 0 | 0 | 0 | 0 | 100 |
| 基礎的能力 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 専門的能力 | 60 | 20 | 0 | 0 | 0 | 0 | 80 |
| 分野横断的能力 | 10 | 10 | 0 | 0 | 0 | 0 | 20 |

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|---|--|---------------------------------------|--|---|--|--|
| Akashi College | | Year | 2021 | | Course Title | Geophysics |
| Course Information | | | | | | |
| Course Code | 0006 | | Course Category | General / Elective | | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | | |
| Term | Second Semester | | Classes per Week | 2 | | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | YOKOYAMA Masahiko | | | | | |
| Course Objectives | | | | | | |
| (1) Learn about the observation techniques and results characteristics for the physical properties related to the solid Earth (gravity, seismic waves, geomagnetism, thermal flow, etc.) and understand their meaning. Also understand the basic principles of observation equipment. (D) | | | | | | |
| (2) Learn about how the Earth's internal structure, surface phenomena, and history have been interpreted using the observations described in (1). By doing this, comprehensively understand the solid Earth system. (D) | | | | | | |
| (3) Understand the concept of plate tectonics and the relationship between them and the movement of the Earth's layers and topography. By doing so, learn the basic knowledge for considering the global environment and disasters such as earthquakes and volcanic eruptions. (A) | | | | | | |
| It is necessary to self-study the basic theorems of mechanics and electro-magnetism in order to achieve these goals. | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | Fully understand the mechanism for estimating the physical properties of objects from the observation results. | | Understand the mechanism for estimating the physical properties of objects from the observation results. | | Do not understand the mechanism for estimating the physical properties of objects from the observation results. | |
| Achievement 2 | Fully understand what kinds of observation evidence the modern understanding of the Earth is estimated on. | | Understand what kinds of observation evidence the modern understanding of the Earth is estimated on. | | Do not understand what kinds of observation evidence the modern understanding of the Earth is estimated on. | |
| Achievement 3 | Fully understand natural phenomena such as earthquakes and volcanic eruptions through the concept called plate tectonics. | | Understand natural phenomena such as earthquakes and volcanic eruptions through the concept of plate tectonics. | | Do not understand natural phenomena such as earthquakes and volcanic eruptions through the concept called plate tectonics. | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (D) | | | | | | |
| Teaching Method | | | | | | |
| Outline | The course will have lectures on how the structure and properties of the Earth (mainly the solid Earth) are currently understood. Since the purpose of geophysics is to capture the Earth quantitatively using physical quantities such as gravity and heat, the main purpose of this course is to understand the physical properties of the materials that make up the Earth, and explain the basic properties and observation techniques of each physical quantity. It will also explain the laws of physics and basic structures used in the observation equipment. It will be taught by a faculty member who is investigating the magnetic properties of deep-sea sediment obtained in core drilling at Academia Sinica in Taiwan. | | | | | |
| Style | Classes are held in a lecture style. The liaison for this course is Takeuchi. | | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The course plan may change. Lessons are serial, not standalone. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 2nd Semester r | 3rd Quarter | 1st | Course guidance / The shape and size of the Earth (1) Explain, as guidance, the course policy and overview. Introduce a perception of the Earth's shape and size in ancient times. | Understand the role played by the academic field of "geophysics" and the role that physics development plays in understanding the Earth's internal structure. | | |
| | | 2nd | The shape and size of the Earth (2) Explain the definitions of the currently recognized shapes for the Earth (Earth ellipsoid and geoid), and also describe the basics of positioning, too. | Understand the basics of positioning using geometry. | | |
| | | 3rd | Gravity Explain what gravity means, by showing the Earth's mass and density obtained by using it. Also explain the meaning of gravity anomaly. | Understand how to estimate the Earth's internal structure from the laws and observed values of gravity that acts on it. | | |
| | | 4th | Isostasy Explain the concept of isostasy and its relationship with gravity. Also introduce examples of crustal movement caused by it. | Understand the concept of isostasy and the characteristics of the Earth's gravity that is related to it. | | |

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| | | 5th | Seismic waves Explain the nature of seismic waves, and explain the methods for surveying underground structures using them. | Understand the characteristics of seismic waves and how to estimate earthquake information using them. |
| | | 6th | The interior structure of the Earth (1) Introduce the larger structure of the Earth's interior, which has been estimated mainly using seismic wave analysis. | Understand the principles of a seismic refraction survey and the method for estimating the Earth's interior structure that uses it. |
| | | 7th | The interior structure of the Earth (2) Introduce the subterranean structure of the Earth's surface layer, which has been estimated mainly using seismic wave analysis. | Understand the principles of a seismic reflection survey and the method for estimating the shallow subterranean part's structure that uses it. |
| | | 8th | Earth heat Explain what is the source of heat inside the Earth, and show the calorimetric distribution on the surface layer of the Earth. | Understand the meaning of heat in physics and the state of the Earth's interior that can be estimated from the calorimetric distribution on the its surface. |
| | 4th Quarter | 9th | Geomagnetism Explain the magnetic distribution on the Earth's surface and how geomagnetism was created. Furthermore, explain magnetic anomalies. | Understand the causes of geomagnetism by understanding "What does magnetism mean?" |
| | | 10th | Rock magnetism and paleomagnetism Explain the mechanism for rocks becoming magnetized and introduce the magnetism shifts from the past that have been investigated using it. | Understand the mechanism that records past geomagnetic information in rocks. |
| | | 11th | Continental drift Introduce the classic continental drift theory by Wegener. Also explain the continental position's restoration by paleomagnetism that has triggered a revival of continental drift theory. | Understand the original information for "continental drift theory," its interpretations, and how to estimate the continental drift using current observation data. |
| | | 12th | The spreading of the seafloor Explain seafloor's topography and underground structure and the relationship between magnetic anomaly distribution in the ocean and the theory of seafloor spreading. | Understand the hypothesis that associates geomagnetic records with continental drift. |
| | | 13th | Plate tectonics (1) Explain the concept and movement of plates and the shape their boundaries as the basis for plate tectonics. | Understand the original meaning of the concept called plate tectonics and its difference from continental drift theory. |
| | | 14th | Plate tectonics (2) Use plate tectonics to explain the movement of the Earth's layers (earthquakes, volcanic activity, orogeny, etc.) | Understand how natural phenomena such as earthquakes and volcanic activities can be explained with plate motions. |
| | | 15th | Plate tectonics (3) Introduce the properties of hotspots, and explain the difference between relative and absolute plate motions. Furthermore, explain the driving force of plate motions. | Understand how plate motions work within the mechanism of the entire Earth. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Exercise | Examination | Total |
|-------------------------|----------|-------------|-------|
| Subtotal | 30 | 70 | 100 |
| Basic Proficiency | 30 | 70 | 100 |
| Specialized Proficiency | 0 | 0 | 0 |
| Cross Area Proficiency | 0 | 0 | 0 |

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|--|--|---------------------------------------|---|---|--|
| Akashi College | | Year | 2021 | Course Title | Culture and Communication |
| Course Information | | | | | |
| Course Code | 0006 | | Course Category | General / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | INOUE Hidetoshi | | | | |
| Course Objectives | | | | | |
| (1) Deepen understanding of different cultures. (2) Improve one's ability to follow English pronunciation and rhythm. (3) Become proficient with TOEIC format questions. | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Fully deepened understanding of different cultures. | | Deepened understanding of different cultures. | | Did not deepen understanding of different cultures. |
| Achievement 2 | Fully gained English pronunciation and rhythm. | | Gained English pronunciation and rhythm. | | Did not gain English pronunciation or rhythm. |
| Achievement 3 | Fully became proficient with TOEIC format questions. | | Became proficient with TOEIC format questions. | | Did not become proficient with TOEIC format questions. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (B) 学習・教育目標 (E) | | | | | |
| Teaching Method | | | | | |
| Outline | Learning a language is more than just learning words. It also includes cultural learning aspects, such as the thoughts and values of the people who speak it. Therefore, these exercises will cover language, culture, and communication. Taking the UK and business English as an example, the goal is to improve students' English skills by understanding the differences and commonalities with Japan. The level of English to be used in this exercise is somewhat easy, so it is not intended as an advanced course. | | | | |
| Style | In order to achieve the goals, students will need to self-study as follows: - Look up important words in advance and understand them in English. - Review the model dialogs learned in the class and practice using the accompanying CD until able to recite it. | | | | |
| Notice | - Ensure adequate preparation time for assignments. - Reassessments will not be permitted if students are late or absent from the class and unable to work or give presentations without reasons such as absence due to suspension, etc. Students who miss 1/4 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | First semester class guidance Explain an overview of the first semester classes, assignments, and evaluation method | | |
| | | 2nd | Check In and Work Out Listening and reading comprehension about conversations at the counter Chapter 1: Daily life | Understand conversations at the counter. | |
| | | 3rd | What Will the Weather Be Like? Listening and reading comprehension about the weather Chapter 2: Clothing | Understand the weather. | |
| | | 4th | A London without Red Buses? Listening and reading comprehension about London buses Chapter 3: Grocery Shopping | Understand London buses. | |
| | | 5th | Back to the Future Listening and reading comprehension about railways Chapter 4: Cooking | Understand railways. | |
| | | 6th | Shop-'n'-Chat Listening and reading comprehension about shopping Chapter 5: Eating out | Understand shopping. | |
| | | 7th | First semester overall review | Review the topics covered in the first semester. | |
| | | 8th | Midterm exam | | |
| | 2nd Quarter | 9th | More Than Just a Post Office Listening and reading comprehension about the concept of post offices Chapter 6: Shopping for Clothing | Understand the concept of post offices. | |
| | | 10th | Off the Beaten Path Listening and reading about tourism Chapter 7: Housing | Understand tourism. | |

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|--|--|------|--|---|
| | | 11th | Dining Out Diversity Listening and reading comprehension about food culture Chapter 8: The Weather | Understand food culture. |
| | | 12th | Afternoon Tea Listening and reading about afternoon tea Chapter 9: At a Movie Theater | Understand afternoon tea. |
| | | 13th | The Beatles Are Forever Reading about the Beatles Chapter 10: Sports | Understand the Beatles. |
| | | 14th | Football: Sport or Business? Reading about football Chapter 11: Traffic and Commuting | Understand football. |
| | | 15th | Second semester overall review | Review the topics covered in the second semester. |
| | | 16th | Final exam | |

| Evaluation Method and Weight (%) | | | | |
|----------------------------------|-------------|-------------|-------|-------|
| | Examination | Short Tests | Other | Total |
| Subtotal | 80 | 20 | 0 | 100 |
| Basic Proficiency | 80 | 20 | 0 | 100 |
| Specialized Proficiency | 0 | 0 | 0 | 0 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 |

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|---|--|---------------------------------------|--|---|---|---|
| Akashi College | | Year | 2021 | | Course Title | Overseas Training |
| Course Information | | | | | | |
| Course Code | 0008 | | Course Category | General / Elective | | |
| Class Format | Practical training | | Credits | School Credit: 2 | | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | | |
| Term | Year-round | | Classes per Week | 2 | | |
| Textbook and/or Teaching Materials | none | | | | | |
| Instructor | | | | | | |
| Course Objectives | | | | | | |
| (1) To enhance the educational experience through active participation in overseas training. (A). (2) To achieve a broad perspective by joining activities in different cultural environments (B). (3) Communicate using English (E). | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | To enhance the educational experience through active participation in overseas training. | | To enhance the educational experience through active participation in overseas training. | | Did not enhance the educational experience through active participation in overseas training. | |
| Achievement 2 | To achieve a broad perspective by joining activities in different cultural environments | | To achieve a broad perspective by joining activities in different cultural environments | | Did not achieve a broad perspective by joining activities in different cultural environments | |
| Achievement 3 | Communicate using English | | Communicate using English | | Can not communicate using English | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (B) 学習・教育目標 (E) | | | | | | |
| Teaching Method | | | | | | |
| Outline | This course aims to allow the student to acquire through various training experiences overseas to think with a global perspective and improve their communication skills. The training period is during the summer holiday period. The number of training days shall be ten days or more. This course requires self-study time equivalent to 90 hours or more, including overseas training, prior guidance (manner education, a preliminary survey of training destinations), post-event report meeting, and reports to handle the related organizations. Advanced Course Committee decides whether or not the overseas training participated fulfill this course requirement. | | | | | |
| Style | | | | | | |
| Notice | Keep close contact with your principal academic advisor. Actively engage with local people during the training period, communicate with them, keep an attitude suitable for trainees, being careful with manners such as clothes and language. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input checked="" type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester | 1st Quarter | 1st | Guidance | Explanation of the course, advice about etiquette at the training safety. | | |
| | | 2nd | Practice | Individual technical experience at overseas training destinations. | | |
| | | 3rd | idem | idem | | |
| | | 4th | idem | idem | | |
| | | 5th | idem | idem | | |
| | | 6th | idem | idem | | |
| | | 7th | idem | idem | | |
| | | 8th | No mid term exams | | | |
| | 2nd Quarter | 9th | idem | idem | | |
| | | 10th | idem | idem | | |
| | | 11th | idem | idem | | |
| | | 12th | idem | idem | | |
| | | 13th | idem | idem | | |
| | | 14th | idem | idem | | |
| | | 15th | idem | idem | | |
| | | 16th | No End Term Exams | | | |
| 2nd Semester | 3rd Quarter | 1st | idem | idem | | |
| | | 2nd | idem | idem | | |
| | | 3rd | idem | idem | | |
| | | 4th | idem | idem | | |
| | | 5th | idem | idem | | |
| | | 6th | idem | idem | | |

| | | | | |
|--|-------------|------|-------------------|------|
| | | 7th | idem | idem |
| | | 8th | No mid term exams | |
| | 4th Quarter | 9th | idem | idem |
| | | 10th | idem | idem |
| | | 11th | idem | idem |
| | | 12th | idem | idem |
| | | 13th | idem | idem |
| | | 14th | idem | idem |
| | | 15th | idem | idem |
| | | 16th | No End Term Exams | |

| Evaluation Method and Weight (%) | | | | | | | |
|----------------------------------|-------------|--------------|-------------------------------------|----------|-----------|-------|-------|
| | Examination | Presentation | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
| Subtotal | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|---|---|---------------------------------------|--|--|--|--|
| Akashi College | | Year | 2021 | | Course Title | Creative Faculty Development |
| Course Information | | | | | | |
| Course Code | 0009 | | Course Category | Specialized / Compulsory | | |
| Class Format | Experiment | | Credits | School Credit: 2 | | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | | |
| Term | Second Semester | | Classes per Week | 4 | | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | NAKANISHI Hiroshi | | | | | |
| Course Objectives | | | | | | |
| (1) Can set goals and plan work on a group basis, perform work voluntarily, and report on work progress and work results effectively. | | | | | | |
| (2) Can apply multiple knowledge and present multiple problem solution plans. | | | | | | |
| (3) Can demonstrate communication skills and teamwork through cooperation and work distribution in group work. | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | Can set goals and plan work on a group basis, perform work voluntarily, and report on work progress and work results effectively. | | Can set goals and plan work on a group basis, perform work voluntarily, and report on work progress and work results. | | Cannot set goals and plan work on a group basis, perform work voluntarily, and report on work progress and work results. | |
| Achievement 2 | Can apply multiple knowledge and present multiple problem solution plans. | | Can apply knowledge and present a problem solution plan. | | Cannot apply knowledge and present a problem solution plan. | |
| Achievement 3 | Can effectively cooperate, distribute work, and demonstrate communication skills and teamwork through group work. | | Can cooperate, distribute work, and demonstrate communication skills and teamwork through group work. | | Cannot cooperate, distribute work, and demonstrate communication skills and teamwork through group work. | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (B) 学習・教育目標 (F) 学習・教育目標 (G) 学習・教育目標 (H) | | | | | | |
| Teaching Method | | | | | | |
| Outline | In this course, students will experience cooperation, work distribution, and administrative roles through group work, and will foster their ability to solve problems in engineering design in a practical manner. In the process of working on a task, they will widely develop the relevant knowledge through assembling equipment, handling devices, and investigating performance, etc. to foster creativity through engineering design assignments. | | | | | |
| Style | They will apply their knowledge of the fields of their Advanced Course study and conduct creative experiments and exercises for assignments under the faculty in charge. Students will form groups of around 4 members from different Advanced Courses and work on the assignment. After the assignment theme is presented and explanations on basic knowledge, etc. are given, students will conduct all of the Plan-Do-See activities in groups within the given time and submit a report. Results will be presented verbally in the discussion and presentation session. | | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students will be divided into groups during guidance. Students who miss 1/5 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 2nd Semester r | 3rd Quarter | 1st | Class guidance, team division, and team building Receive class guidance and check the overall schedule, activity conditions, and evaluation methods. Divide into teams and do team building activities. | Understand the course aims and assignment content. | | |
| | | 2nd | Create problem solution plans for the assignment and formulate and implement an action plan in groups. | Can act voluntarily in group activities and contribute to the team by demonstrating communication skills and teamwork. | | |
| | | 3rd | Same as week 2 | Same as week 2 | | |
| | | 4th | Same as week 2 | Same as week 2 | | |
| | | 5th | Same as week 2 | Same as week 2 | | |
| | | 6th | Plan discussions and presentations: Present problem solution plans for the assignment and give an oral presentation of an implementation plan. | Can explain to others how effective and reasonable the proposed solutions and plans are. | | |
| | | 7th | Can reconsider in groups the activity plans and make a better implementation plan based on the results of the planning discussion. | Same as week 2 | | |
| | | 8th | Same as week 7 | Same as week 2 | | |
| | 4th Quarter | 9th | Same as week 7 | Same as week 2 | | |
| | | 10th | Same as week 7 | Same as week 2 | | |

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|--|--|------|--|--|
| | | 11th | Same as week 7 | Same as week 2 |
| | | 12th | Same as week 7 | Same as week 2 |
| | | 13th | Same as week 7 | Same as week 2 |
| | | 14th | Same as week 7 | Same as week 2 |
| | | 15th | Results presentation: Present the implemented problem solution plan and give an oral presentation of the outcome of implementing it. | Can explain to others how reasonable the implemented solution plan was and the outcome of implementing it. |
| | | 16th | No final exam | |

| Evaluation Method and Weight (%) | | | | | | | |
|----------------------------------|-------------|--------------|--------|----------|-----------|-------|-------|
| | Examination | Presentation | Report | Behavior | Portfolio | Other | Total |
| Subtotal | 0 | 20 | 40 | 40 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 0 | 40 | 40 | 0 | 0 | 80 |
| Cross Area Proficiency | 0 | 20 | 0 | 0 | 0 | 0 | 20 |

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|--|--|---------------------------------------|---|---|--|
| Akashi College | | Year | 2021 | Course Title | Engineering Topics for Advanced Course Students |
| Course Information | | | | | |
| Course Code | 0010 | | Course Category | Specialized / Compulsory | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | KANDA Keiichi,HIRAISHI Toshihiro,NAKANISHI Hiroshi,NOMURA Hayato,ONISHI Shosaku | | | | |
| Course Objectives | | | | | |
| (1) Understand the latest technological issues in one's own area of specialty, their solutions and the status of their efforts (H). (2) Learn about the latest issues in areas different from one's own area of specialty (H). (3) Learn and understand topics about technologies and research that are co-existence friendly in each area of specialty (A). | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Understand the latest technological issues in one's own area of specialty, their solutions and the status of their efforts. | | Understand the latest technological issues in one's own area of specialty, their solutions and the status of their efforts. | | Do not understand the latest technological issues in one's own area of expertise, their solutions and the status of their efforts. |
| Achievement 2 | Learn about the latest issues in areas different from one's own area of specialty. | | Learn about the latest issues in areas different from one's own area of specialty. | | Do not learn about the latest issues in areas different from one's own area of specialty. |
| Achievement 3 | Learn and understand topics about technologies and research that are co-existence friendly in each area of specialty. | | Learn and understand topics about technologies and research that are co-existence friendly in each area of specialty. | | Do not learn and understand topics about technologies and research that are co-existence friendly in each area of specialty. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | In order to broaden students' backgrounds as an engineers, it is important for them to actively learn not only their own areas of specialty but learn other areas, too. In this course, faculty members from different areas of expertise will give knowledge of the trends in technological development in an interdisciplinary manner both inside and out of this course. Classes will cover various topics and take place in a relay form: Nakanishi: Guidance and shared fields (three classes) Onishi: Mechanical systems (three classes) Nomura: Electronic and information systems (three classes) Kanda: Urban systems (three classes) Hiraishi: Building system (three classes) By learning about various development and research processes, students will develop universal thinking and flexible development capabilities beyond their respective technical fields. | | | | |
| Style | Of the 15 week-period, Nakanishi will teach the guidance in week 1 in a lecture-style format. Onishi will teach classes from weeks 2 to 4 in a lecture-style format. Nomura will teach classes from weeks 5 to 7 in a lecture-style format. Kanda will teach classes from weeks 8 to 10 in a lecture-style format. Hiraishi will teach classes from weeks 11 to 13 in a lecture-style format. In weeks 14 and 15, shared fields will be taught in a lecture-style format and in the form of off-campus exercises. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Although there will be many topics outside of students' own specialties, they will be explained in a way that is easy to understand, so students should be able to properly learn them. Students who miss 1/5 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | Course aims (Nakanishi) Explain the purpose of Engineering Topics for Advanced Course Students. Inform the evaluation methods and other details. Explain the importance of actively learning a wide range of knowledge through self-experience, recent science and technology topics, etc. | Understand an overview of this class and create a pre-learning plan. | |
| | | 2nd | Lecture on the basics of mechanical materials, and on the method of tensile testing to obtain a material's representative properties and the meaning of the material properties obtained from that. (Onishi) | Can explain the basics of materials science, such as crystal structure and dislocation. Can also explain tensile testing and properties. | |

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| | | 3rd | Lecture on fracture toughness and fatigue properties of metal materials. Requirements for machinery and equipment are becoming sophisticated in recent years, and as a result, their fracture behaviors that have to do with fracture toughness and fatigue are increasing. Lecture on the basic knowledge of the metals used in machinery and equipment. (Onishi) | Can explain the use and meaning of fracture toughness and fatigue properties. |
| | | 4th | Lecture on the concept of material selection for machinery and equipment. Metals (ferrous and non-ferrous) and plastic are used in machinery and structures, and one must have various viewpoints when selecting materials that fit the purpose. Lecture on the vital points on those viewpoints. (Onishi) | Can explain the necessary viewpoints for material selection for the design of machinery and equipment (including functional materials) and structures. |
| | | 5th | Information visualization 1 (Nomura) Learn about systems and concepts for data analysis and applications, with the subject of a database of gathered information on the relationship between engineering elements and products. | Can explain structuring for visualization. |
| | | 6th | Information visualization 2 (Nomura) Learn about mechanical information extraction and organization based on text mining and formatting. | Can implement methods for extracting and formatting the desired information from a large amount of data. |
| | | 7th | Information visualization 3 (Nomura) Select a field from the database of engineering elements and do visualizing exercises. | Can extract and visualize information from the database according to one's own objectives. |
| | | 8th | Global environmental problems 1 (Kanda) Environmental deterioration can affect the health and comfort of people in the future and in other regions. Through group discussions, discuss regional and intergenerational disparities in environmental deterioration. | Can fully understand and explain the regional and intergenerational disparities of environmental deterioration to others through group discussions. |
| | 4th Quarter | 9th | Global environmental problems 2 (Kanda) Outline the mechanism of global warming and its impact on the ecosystem, and examine the current status of greenhouse gas concentrations and their sources, distribution, and migration forms. | Fully understand and can explain to others the mechanism of global warming, its impact on the ecosystem, and the current status of greenhouse gas concentrations and their sources, distribution, and migration forms. |
| | | 10th | Global environmental problems 3 (Kanda) Outline the mechanism of ozone layer depletion and its impact on the ecosystem, and think about the locations and distribution of ozone holes and predictions and countermeasures for their future growth. | Fully understand and can explain to others the mechanism of ozone layer depletion and its impact on the ecosystem, the locations and distribution of ozone holes, and predictions and countermeasures for their future growth. |
| | | 11th | Assistance for developing countries and disaster areas (Hiraishi) Give an introduction on assistance for developing countries and disaster areas that have been provided so far, and consider the way in which technologies can be applied to local characteristics in the global community. | Can recognize the importance of local characteristics also in a globalized society. |
| | | 12th | Appropriate technology (Hiraishi) Give an introduction on the need for appropriate technology, examples of its application in developing countries and those in environmental measures in Japan to think about the way technology should work. | Can explain the definition of appropriate technology and give examples of it. |
| | | 13th | Recycling and benefits of biological organics (Hiraishi) Explain how to treat biological organic materials such as fallen leaves, weeds, woods, food waste, and human waste, and how the system for a recycling-based society should work. | Can explain examples of material recycling in a recycling-based society. |
| | | 14th | Shared fields 1 (Nakanishi) As a summary of this course, learn about a wide range of the latest science and technology, including shipbuilding, navigating, communicating, port and city planning, through an exercise on board Kobe University's Faculty of Maritime Sciences' training ship, "Fukae Maru." | Can organize and explain the knowledge gained through the on-board exercise. |
| | | 15th | Shared fields 2 (Nakanishi) As a summary of this course, learn about a wide range of the latest science and technology, including shipbuilding, navigating, communicating, port and city planning, through an exercise on board Kobe University's Faculty of Maritime Sciences' training ship, "Fukae Maru." The will be an intensive course combined with week 14. | Can organize and explain the knowledge gained through the on-board exercise. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Report | Presentation | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|--|--------|--------------|-------------------------------------|----------|-----------|-------|-------|
|--|--------|--------------|-------------------------------------|----------|-----------|-------|-------|

| | | | | | | | |
|-------------------------|----|---|---|----|---|---|-----|
| Subtotal | 90 | 0 | 0 | 10 | 0 | 0 | 100 |
| Basic Proficiency | 20 | 0 | 0 | 10 | 0 | 0 | 30 |
| Specialized Proficiency | 30 | 0 | 0 | 0 | 0 | 0 | 30 |
| Cross Area Proficiency | 40 | 0 | 0 | 0 | 0 | 0 | 40 |

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|---|--|---|---|---|--|--|
| Akashi College | | Year | 2021 | | Course Title | Engineering Presentation I |
| Course Information | | | | | | |
| Course Code | 0011 | | Course Category | Specialized / Compulsory | | |
| Class Format | Seminar | | Credits | School Credit: 1 | | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | | |
| Term | First Semester | | Classes per Week | 2 | | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | NAKAI Yuichi,TAKEDA Naho | | | | | |
| Course Objectives | | | | | | |
| (1) Can set a problem for the given theme, prepare materials (e.g., summary and slides) for the presentation, and present and discuss them orally (E). (2) Can set a theme on one's own in Theme 1, prepare materials (e.g., summary and slides) for the presentation, and present and discuss them orally (E). (3) Understand engineering ethics through research of the ethics codes, etc. of the professional academic societies covered in Theme 2 and presentations of its results (C). (4) Understand the importance of role sharing through team work in Theme 2 (B). | | | | | | |
| Rubric | | | | | | |
| | | Ideal Level | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Can set a problem for the given theme, prepare materials (e.g., summary and slides) for the presentation, and present and discuss them orally in a persuasive manner. | Can set a problem for the given theme, prepare materials (e.g., summary and slides) for the presentations, and present and discuss them orally. | | Cannot set a problem for the given theme, prepare materials (e.g., summary and slides) for the presentations, and present and discuss them orally. | |
| Achievement 2 | | Can set a theme on one's own, prepare materials (e.g., summary and slides) for the presentation, and present and discuss them orally in a persuasive manner. | Can set a theme, prepare materials (e.g., summary and slides) for the presentation, and present and discuss them orally. | | Cannot set a theme, prepare materials (e.g., summary and slides) for the presentation, and present and discuss them orally. | |
| Achievement 3 | | Fully understand and can explain engineering ethics through research of the ethics codes, etc. of the professional academic societies and presentations of its results. | Understand engineering ethics through research of the ethics codes, etc. of the professional academic societies and presentations of its results. | | Do not understand engineering ethics through research of the ethics codes, etc. of the professional academic societies and presentations of its results. | |
| | | Understand and can practice the importance of role sharing through team work. | Understand the importance of role sharing through team work. | | Do not understand the importance of role sharing through team work. | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (B) 学習・教育目標 (C) 学習・教育目標 (E) | | | | | | |
| Teaching Method | | | | | | |
| Outline | This course will have lectures and exercises on fundamental approaches such as written presentations, graphical presentations, oral presentations, etc. in order to enhance students' ability to express technical matters. Students will be given a variety of assignments, and asked to evaluate each other based on the viewpoints of (1) subject clarity, (2) content clarity, (3) appeal, etc. In addition, the teaching staff will offer their impressions and critiques to raise the levels of the content. Furthermore, students will understand the importance of sharing roles and other matters by preparing for presentations through team work. (See class content for the teacher and scheduling information.) | | | | | |
| Style | After Nakai and Takeda have given their lectures on the fundamental topics, etc., students will give presentations on their themes. Lessons will then be taught by Nakai and Takeda together. | | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Emphasis will be on presenting and discussing the summary and slides students have prepared by themselves within the determined time. Students are expected to be able to evaluate other students' presentations. Students who miss 1/5 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester | 1st Quarter | 1st | How to write a report (Part 1: Takeda) Explain how to write a report as a written presentation. Learn how to express sentences in a written report based on specific samples. Set a theme for writing a 1- or 2-page report on A4 paper. | Understand the basics of writing a report. | | |
| | | 2nd | How to write a report (Part 2: Takeda) Exchange and correct reports written on the given theme and exchange opinions either by everyone individually or by group. | Understand the basic writing of a report in practice. | | |
| | | 3rd | Presentation rules (Part 1: Nakai) There are several important points to keep in mind when creating materials for presentations. They are explained here with examples. | Understand the key points for creating materials. | | |

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| | | 4th | Presentation rules (Part 2: Nakai) There are several important points to keep in mind when giving presentations in public. They are explained here with examples. | Understand the do's and don'ts when giving presentations. |
| | | 5th | Presentation rules (Part 3: Takeda) Practice the key points of public presentations with actual examples. | Learn the key points for public presentations. |
| | | 6th | Theme 1 (Free choice): Preparing reports and slides (Nakai and Takeda) Prepare a report with an individually set theme and prepare a 10-minute presentation. | Can create a report with an individually set theme and prepare a 10-minute presentation. |
| | | 7th | Theme 1 presentation (Part 1: Nakai and Takeda) Each individual will give a 10-minute presentation about Theme 2 followed by a 5-minute discussion with everyone. | Give a 10-minute presentation about Theme 1 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | | 8th | Theme 1 presentation (Part 2: Nakai and Takeda) Same as above | Give a 10-minute presentation about Theme 1 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | 2nd Quarter | 9th | Theme 1 presentation (Part 3: Nakai and Takeda) Same as above | Give a 10-minute presentation about Theme 1 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | | 10th | Theme 1 presentation (Part 4: Nakai and Takeda) Same as above | Give a 10-minute presentation about Theme 1 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | | 11th | Theme 1 presentation (Part 5: Nakai and Takeda) Same as above | Give a 10-minute presentation about Theme 1 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | | 12th | Theme 2 (Code of ethics): Preparing reports and slides (Part 1: Nakai and Takeda) In teams of two to four, research the code of ethics of respective professional academic societies. Prepare to compile reports and deliver a 10-minute presentation. | In teams of two to four, can research the code of ethics of the professional academic societies that they belong to. |
| | | 13th | Theme 2 (Code of ethics): Preparing reports and slides (Part 2: Nakai and Takeda) Same as above | Working together in teams, can prepare a 10-minute presentation on and summarize in a report the ethics of the respective professional academic societies that they belong to. |
| | | 14th | Theme 2 presentation (Part 1: Nakai and Takeda) In teams, give a 10-minute presentation about Theme 1 and have a 10-minute discussion with everyone. | In teams, give a 10-minute presentation about Theme 2 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | | 15th | Theme 2 presentation (Part 2: Takeda and Nakai) Same as above | In teams, give a 10-minute presentation about Theme 2 and have a 10-minute discussion with everyone. Also, evaluate each other's presentations. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Resume | Presentation&Discussion | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|-------------------------|--------|-------------------------|-------------------------------------|----------|-----------|-------|-------|
| Subtotal | 30 | 70 | 0 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 30 | 70 | 0 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|--|---------------------------------------|---|--|--|
| Akashi College | | Year | 2021 | Course Title | Industrial Materials |
| Course Information | | | | | |
| Course Code | 0012 | | Course Category | Specialized / Compulsory | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | SAKAIDA Akiyoshi,KAJIMURA Yoshihiro,TAKEDA Naho,HIRAISHI Toshihiro | | | | |
| Course Objectives | | | | | |
| (1) Understand the basic issues related to metal materials and learn their characteristics and how to test the strength. (D, H) (taught by Sakaida). (2) Become able to think about technological innovation through the fusion of different fields for the construction, maintenance, and control of concrete structures (D, H) (taught by Takeda). (3) Understand the factors to consider when making environmentally friendly choices for materials, and deepen understanding by individually studying and explaining materials of interest to each other (D, H) (taught by Hiraishi). (4) Understand the physical quantities related to magnetism along with units, and aim to understand and explain the properties of various magnetic materials. (D,H) (taught by Kajimura). | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Understand the basic issues related to metal materials and can explain specifically their characteristics and how to test the strength. | | Understand the basic issues related to metal materials and can explain their characteristics and how to test the strength. | | Do not understand the basic issues related to metal materials and cannot explain their characteristics and how to test the strength. |
| Achievement 2 | Can explain the relationship between their own specialty and concrete engineering, and make new proposals. | | Can explain the relationship between their own specialty and concrete engineering. | | Cannot explain the relationship between their own specialty and concrete engineering. |
| Achievement 3 | Can perform LCA analysis for making environmentally friendly choices for industrial materials. | | Understand the items to consider for making environmentally friendly choices for industrial materials. | | Do not understand the need to make environmentally friendly choices for industrial materials. |
| | Understand the physical quantities related to magnetism, along with units, and understand and can explain the properties and applications of various magnetic materials. | | Understand the physical quantities related to magnetism, along with units, and understand and can explain the properties of various magnetic materials. | | Do not understand the physical quantities related to magnetism, along with units, and do not understand and cannot explain the properties of various magnetic materials. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | (1) With a focus on steel materials, explain the characteristics and types of metal materials, and methods for strengthening them together with breakdown phenomena under various conditions. (8 hours, taught by Sakaida.) (2) Explain the mechanical properties and reinforcement methods of concrete (a typical material for urban construction), maintenance and control techniques, and consideration for environmental issues. (6 hours, taught by Takeda.) (3) Deepen understanding by individually studying and explaining materials' environmental impact and the properties of various industrial materials. (8 hours, taught by Hiraishi.) (4) Understand the characteristics and properties of various magnetic materials and explain their application cases. (8 hours, taught by Kajimura.) | | | | |
| Style | The class will be held in an omnibus format by four faculty members. Weeks 1-4: Sakaida will teach classes in a lecture-style format. Weeks 5-7 (Takeda): Students will learn about the mechanical properties of concrete, reinforcement methods, maintenance and control techniques, and consideration for environmental issues. Weeks 8-11 (Hiraishi): After explaining choices of industrial materials and the difference in their environmental impact according to a Life Cycle Assessment (LCA), students will select one industrial material related to their graduate study's special research and use PowerPoint to present its advantages, disadvantages, and environmental impact. Weeks 12-15 (Kajimura): Students will learn the physical quantities related to magnetism along with units, and become able to understand and explain the properties of various magnetic materials. Students will also investigate application cases. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Introduction to metal materials (Sakaida) Learn about the crystal structures and plastic deformation mechanism of metal materials. | Can explain the crystal structures and plastic deformation mechanism of metal materials. | |

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| | | 2nd | Types and characteristics of metal materials (Sakaïda) Learn about the types and characteristics of metal materials that are used as materials for machinery and construction. | Can explain the types and characteristics of metal materials that are used as materials for machinery and construction. |
| | | 3rd | Methods for strengthening metal materials (Sakaïda) Learn about heat treatment, strengthening methods, and reinforcement mechanisms for steel materials. | Can explain heat treatment, strengthening methods, and reinforcement mechanisms for steel materials. |
| | | 4th | Mechanical properties of metal materials (Sakaïda) Learn about the mechanical properties of metal materials and how to test the strength. | Can explain the mechanical properties of metal materials and how to test the strength. |
| | | 5th | Introduction to concrete (Takeda) Learn about concrete (a typical material for urban construction), its constituent materials, and its mechanical properties. | Can explain concrete's constituent materials and mechanical properties. |
| | | 6th | Durability, maintenance and control techniques for concrete structures (Takeda) Learn how to reinforce concrete structures, and how to deal with deterioration that affects its durability. | Can explain the maintenance and control techniques for concrete structures. |
| | | 7th | Techniques for reducing the environmental impact of construction materials (Takeda) Learn about techniques for reducing environmental impact caused by concrete's constituent materials and usage. | Can explain the techniques for reducing the environmental impact of construction materials. |
| | | 8th | Materials and environmental impact (Hiraishi) Learn about the results of analyzing various industrial materials' environmental impact using an LCA (Life Cycle Assessment) method. | Can analyze the difference between various industrial materials by means of an LCA (Life Cycle Assessment). |
| | 2nd Quarter | 9th | Study a material's properties (Hiraishi) Give a presentation on the characteristics of an industrial material of interest. | Can explain the applications, advantages, and disadvantages of an industrial material related to special research. |
| | | 10th | Study a material's properties (Hiraishi) Give a presentation on the characteristics of an industrial material of interest. Create presentation materials. | Can explain the applications, advantages, and disadvantages of an industrial material related to special research. |
| | | 11th | Study a material's properties (Hiraishi) Give a presentation on the characteristics of an industrial material of interest. | Can explain the applications, advantages, and disadvantages of an industrial material related to special research. |
| | | 12th | An outline of magnetic materials (Kajimura) Outline the development history of magnetic materials and their characteristics. Also learn about specific cases that are widely used in many fields today. | Outline the development history of magnetic materials and their characteristics. Can also explain the specific cases that are widely used in many fields today. |
| | | 13th | Physical properties of magnetic materials (Kajimura) Learn about the basics of magnetism and the physical properties of magnetic materials as learned in the field of electricity, etc. Investigate use and application cases of interest in the respective areas of specialty and deepen understanding of their principles. | Learn about the basics of magnetism and the physical properties of magnetic materials as learned in the field of electricity, etc. Can investigate use and application cases of interest in the respective areas of specialty and deepen understanding of their principles. |
| | | 14th | Principles and application examples of magnetic sensors that use magnetic materials (Kajimura) Introduce principles and application examples of magnetic sensors that use magnetic materials, and also introduce intelligent materials and intelligent magnetic materials. | Can explain the principles and application examples of magnetic sensors that use magnetic materials, and explain intelligent materials and intelligent magnetic materials. |
| | | 15th | Applications examples in various fields (Kajimura) Compile into a report the results of an investigation into magnetic materials in one's own area of specialty. | Can compile into a report and explain the results of an investigation into magnetic materials in one's own area of specialty. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|-------------------------|-------------|--------------|-------------------------------------|----------|-----------|-------|-------|
| Subtotal | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 50 | 0 | 0 | 0 | 0 | 0 | 50 |
| Specialized Proficiency | 50 | 0 | 0 | 0 | 0 | 0 | 50 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|---|---------------------------------------|--|--|--|--|
| Akashi College | | Year | 2021 | | Course Title | Information Processing |
| Course Information | | | | | | |
| Course Code | 0013 | | Course Category | Specialized / Elective | | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | | |
| Term | First Semester | | Classes per Week | 2 | | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | INOUE Kazunari | | | | | |
| Course Objectives | | | | | | |
| (1) Have knowledge of the various data formats that a computer handles and can make appropriate choices (H). (2) Understand the characteristics of data formats, and can convert them to required formats and process them using appropriate tools (D). (3) Can express one's own information to others in a way that is easy to understand (E). | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | Fully understand the data formats that computers handle, and their management and protection. | | Understand the data formats that computers handle, and their management and protection. | | Do not understand the data formats that computers handle, and their management and protection. | |
| Achievement 2 | Fully understand how to prepare technical documentation and presentation materials, and various techniques. | | Understand how to prepare technical documentation and presentation materials, and various techniques. | | Do not understand how to prepare technical documentation and presentation materials, and various techniques. | |
| Achievement 3 | Fully understand statistical calculations and processing using Excel and ipyson. | | Understand statistical calculations and processing using Excel and ipyson. | | Do not understand statistical calculations and processing using Excel or ipyson. | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (E) 学習・教育目標 (H) | | | | | | |
| Teaching Method | | | | | | |
| Outline | The proper handling of information is essential for engineers in all areas of specialty. Improving the ability to create the materials used in various types of presenting is an important task for conveying technology. This includes papers, posters, and presentations. From the data handled by computers to material creation using various applications, the aim of this course is to learn advanced information application technology and provide explanations aimed at boosting skills. | | | | | |
| Style | The lessons on data formats that computers handle and their management and protection in weeks 1 and 2 will be taught in a lecture-style format. From week 3 to week 15, lessons on creating technical documentation and presentation materials using MS Office and statistical calculations and processing using Excel and ipyson, will be taught in lecture-style and exercise formats. | | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Since there is no prerequisite knowledge required, students from all departments can take the course. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
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| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester r | 1st Quarter | 1st | Explain the data formats that computers handle and their characteristics. | Understand the data formats that computers handle and their characteristics. | | |
| | | 2nd | Explain the internal structure, storage, and networks of computers. | Understand the internal structure, storage, and networks of computers. | | |
| | | 3rd | Explain styles, chapters, sections, paragraphs, fonts, and indents found in document creation. | Understand styles, chapters, sections, paragraphs, fonts, and indents found in document creation. | | |
| | | 4th | Explain paste link and paste metafile for pictures and tables, and cross-reference. | Understand paste link and paste metafile for pictures and tables, and cross-reference. | | |
| | | 5th | Create and submit technical documentation using Word | Create and submit technical documentation using Word | | |
| | | 6th | Create technical documentation using PowerPoint. Describe how to create different diagrams, templates, and slides / masters. | Create technical documentation using PowerPoint. Understand how to create different diagrams, templates, and slides / masters. | | |
| | | 7th | Explain effective techniques and playback, including image, audio, and video data. | Understand effective techniques and playback, including image, audio, and video data. | | |
| | | 8th | Create technical presentation documentation using PowerPoint | Create technical presentation documentation using PowerPoint | | |
| | 2nd Quarter | 9th | Explain various functions and data analysis. | Understand various functions and data analysis. | | |
| | | 10th | Explain macro functions and how to run them. | Understand macro functions and how to run them. | | |

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| | | 11th | Submit statistical calculations and processing using Excel | Submit statistical calculations and processing using Excel |
| | | 12th | Explain file protection, encryption, and security. | Can protect, encrypt, and secure files. |
| | | 13th | Explain a cloud-assisted interactive program development environment. | Understand a cloud-assisted interactive program development environment. |
| | | 14th | Explain database analysis that used interactive execution. | Understand database analysis that used interactive execution. |
| | | 15th | Summary | Understand the summary. |
| | | 16th | No final exam | No final exam |

Evaluation Method and Weight (%)

| | | Assignments | | | | | Total |
|-------------------------|---|-------------|---|---|---|---|-------|
| Subtotal | 0 | 100 | 0 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 100 | 0 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|---|---------------------------------------|---|--|--|
| Akashi College | | Year | 2021 | Course Title | Analytical Mechanics |
| Course Information | | | | | |
| Course Code | 0014 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | OGASAWARA Hiromichi | | | | |
| Course Objectives | | | | | |
| (1) Understand that Lagrangian mechanics are formulated by developing Newtonian mechanics with a focus on the handling of constraints. (D) (2) Understand the basic concepts of vibration in multi-degree of freedom systems (including continuum, which is an infinite degrees of freedom system), with a focus on normal vibration. (D), (F) (3) Learn the calculus of variations, and understand that the basic laws of mechanics can be formulated as variation principles. (D), (H) (4) Understand that Hamiltonian mechanics (a canonical transformation) are formulated by converting a motor equation, a second order differential equation, into a first order one. (D), (H) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Fully understand the formulation of Lagrangian mechanics. | | Understand the formulation of Lagrangian mechanics. | | Do not understand the formulation of Lagrangian mechanics. |
| Achievement 2 | Fully understand the basic concepts of multi-degree of freedom vibration systems. | | Understand the basic concepts of multi-degree of freedom vibration systems. | | Do not understand the basic concepts of multi-degree of freedom vibration systems. |
| Achievement 3 | Fully understand the formulation of mechanics by variation principles. | | Understand the formulation of mechanics by the variation principles. | | Do not understand the formulation of mechanics by the variation principles. |
| | Fully understand the formulation of Hamiltonian mechanics. | | Understand the formulation of Hamiltonian mechanics. | | Do not understand the formulation of Hamiltonian mechanics. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | Analytical mechanics is the mathematical development of Newtonian mechanics and is one of the important fundamental departments involved in the wide area of engineering. The theory of analytical mechanics is composed of the Lagrangian and Hamiltonian mechanics (a canonical transformation). In this course, students will mainly study the Lagrangian. The Lagrangian mechanics is designed to foresee various mechanics problems and handle them well. It is also the basis for learning the Hamiltonian mechanics, which is introduced at the end of the semester. | | | | |
| Style | Classes are held in a lecture style. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Be aware that class time makes up a small percentage of the overall expected learning time, and students are advised to thoroughly pre-study or review. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester r | 1st Quarter | 1st | The principle of virtual work and d'Alembert's principle | Learn the basics about the principle of virtual work and d'Alembert's principle. | |
| | | 2nd | The method of Lagrange multipliers | Learn the basics of the method of Lagrange multipliers. | |
| | | 3rd | Lagrange's motion equations of the first kind | Learn the basics of Lagrange's motion equations of the first kind. | |
| | | 4th | Generalized coordinates and generalized speed | Learn the basics of generalized coordinates and generalized speed. | |
| | | 5th | Lagrange's motion equations (the second kind) | Learn the basics of Lagrange's motion equations of the second kind. | |
| | | 6th | Normal coordinates in a coupled oscillation system | Learn the basics of coupled oscillation systems. | |
| | | 7th | Normal coordinates in a coupled oscillation system | Learn the basics of coupled oscillation systems. | |
| | | 8th | Waves | Learn the basics of waves. | |
| | 2nd Quarter | 9th | Lagrangian continuum | Learn the basics of Lagrangian continuum. | |
| | | 10th | Calculus of variations and Euler's differential equations | Learn the basics of the calculus of variations and Euler's differential equations. | |
| | | 11th | Hamilton's principle | Learn the basics of Hamilton's principle. | |

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| | | 12th | Hamilton's canonical equations | Learn the basics of Hamilton's canonical equations. |
| | | 13th | Hamilton's canonical equations | Learn the basics of Hamilton's canonical equations. |
| | | 14th | Variation principles in Hamiltonian mechanics | Learn the basics of variation principles in Hamiltonian mechanics. |
| | | 15th | Summary and supplementary notes | Understand the relationship between Lagrangian and Hamiltonian mechanics. |
| | | 16th | Final exam | |

| Evaluation Method and Weight (%) | | | |
|----------------------------------|-------------|----------|-------|
| | Examination | Exercise | Total |
| Subtotal | 70 | 30 | 100 |
| Basic Proficiency | 0 | 0 | 0 |
| Specialized Proficiency | 70 | 30 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 |

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|--|---|---------------------------------------|---|---|---|
| Akashi College | | Year | 2021 | Course Title | Inclusive Design |
| Course Information | | | | | |
| Course Code | 0015 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | OTSUKA Takehiko,AKITA Naoshige,ASAO Hiroyasu,IWATA Naoki,HIRAI Yasuyuki | | | | |
| Course Objectives | | | | | |
| The goals are to: (1) Understand inclusive design in Japan and Europe (2) Understand user-participation methods (3) Cultivate solid knowledge and practical ability, and humanity to comprehensively support the lives of diverse people with disabilities. | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Fully understand and can explain inclusive design | | Understand and can explain inclusive design | | Do not understand or can explain inclusive design. |
| Achievement 2 | Can fully apply multiple kinds of knowledge and present multiple ideas instead of a single solution. | | Can apply multiple kinds of knowledge and present multiple ideas instead of a single solution. | | Cannot apply multiple kinds of knowledge and present multiple ideas instead of a single solution. |
| Achievement 3 | Fully understand and can explain various user characteristics | | Understand and can explain various user characteristics. | | Do not understand and cannot explain various user characteristics. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | Inclusive design is a concept aimed at mainstream design development that includes users who have been excluded until now, and makes good business sense. Recently, in particular, it has been attracting attention as an effective method of UX (user experience) and innovation. This course focuses on case studies in specific fields such as medical and welfare, and discusses inclusive design in Europe and Japan, and the user-participation method as that process. It aims to understand this through WS, etc. Hirai has been a designer for 14 years and is currently a professor at the Graduate School of Kyushu University. Akita has worked as a designer for seven years and is currently an assistant professor at the Graduate School of Kyushu University. Iwata has been a designer for 27 years. Asao has been managing a company in the nursing care and barrier-free housing sector for 32 years. The classes will make use of all their experiences. | | | | |
| Style | The classes are taught in ways including lectures and exercises such as workshops. The materials required for classes will be distributed in the lectures as appropriate. Reference Books: Hirai et al. Inclusive Design: Shakai no Kadai o Kaiketsusuru Sankagata Design (Inclusive Design: Participatory Design to Solve Social Problems) (Gakugei Shuppansha) | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The course is open to students from any department. Classes will be taught as simply as possible, and group workshops will also be held. Students who miss 1/4 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | What is an inclusive design? 1) (Yasuyuki Hirai, professor at Kyushu University) Understand accessible design around the world. What is the difference between conventional and inclusive design? Think together to discover why there is a need for this using specific cases as a subject. | Understand universal design from accessible and barrier-free design around the world. | |
| | | 2nd | What is an inclusive design? 2) (Hirai) Using specific cases in the medical and pharmaceutical fields to think together on topics, including the background behind inclusive design and the differences between it and other similar concepts such as universal and barrier-free design. | Understand the concepts and methodologies of inclusive design. | |
| | | 3rd | Week 3: Barrier-free design in schools by simulation, Otuska Conduct a facility inspection at Akashi College using various simulation equipment. | Understand each user's special features through simulations as the elderly, visually impaired, etc. | |

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| | | 4th | Office space and inclusive design 1 (Naoshige Akita, Assistant Professor, Kyushu University), Otsuka Companies are developing products based on their management philosophy and vision. Consider inclusive design at companies by referring to the relationship between corporate management and manufacturing, the relationship with the market, and the relationship with customers. | Learn how to research users based on examples of office-space inclusive design. |
| | | 5th | Office spaces and inclusive design 2 (Akita) What is an office, what functions are in an office space, and what products are there? Consider what to do in order to plan an office and design its space. | Can think about inclusive design in an office space with the parties concerned. |
| | | 6th | Office spaces and inclusive design 3 (Akita) Products used in the office include stationery and furniture. Study based on examples, how they are designed through concepts and processes. | Understand the inclusive design process in an office space. |
| | | 7th | Office spaces and inclusive design 4 (Akita), Otsuka Discuss in groups things all noticed in the class room and school space, set challenges, and share ideas. | Can set social challenges based on behavioral observation, and solve them. |
| | | 8th | Team-made design 1 (Naoki Iwata, Atelier Caprice) Learn and experience the "team-made designs" that are actually applied in society. Hold a lecture on "graphic design." | Understand participatory and co-creational design |
| | 2nd Quarter | 9th | Team-made design 2 (Iwata), Otsuka Practice "graphic design" (a department introduction brochure and DVD produced by students) based on team-made designs. Identify issues by practically doing and validating it. | Create a graphic design (brochure) using a team-made design |
| | | 10th | ICF and the welfare community (Hiroyasu Asao, Amenity & Safety Corporation) Recognize the relevance and importance of the ICF's thinking, which has become mainstream for welfare, and its living environment. Study the points for building a living environment for each case of disease from practical examples, and learn approaches toward diverse people. | Recognize the relevance and importance of the ICF's thinking and living environment, and understand the basics of building a living environment. |
| | | 11th | Living environment and housing facilities: Simulated learning (Asao), Otsuka Examine the main facilities and design of barrier-free housing, comprehensively capture the lives of people with physical disabilities, conduct problem analysis, and learn approaches. | Students will learn the basics of inclusive barrier-free house development. |
| | | 12th | Social innovation through dialog with the parties concerned, Otsuka Explain the outlines of Japan's "User Expert System" that involves participation of parties concerned, the "Advisor for Welfare Community Development" scheme in the Hyogo Prefectural Welfare Community Development Ordinance, and so on. | Understand the development of welfare communities in Japan's local governments. |
| | | 13th | Inclusive design workshop 1 (Akita), Otsuka Hold a workshop with the theme "Design aspiration: What design can do." Explains as an introduction, the workshop's concept and how it will run. | Research various issues through inclusive design methodology with the parties concerned. |
| | | 14th | Inclusive design workshop 2 (Akita), Otsuka Identify and visualize key issues from needs within the process. Organize insights from direct user interaction and observations to identify key issues. | Identify, research, and visualize social issues and solve them. |
| | | 15th | Inclusive design workshop 3: Review sessions (Akita), Otsuka Design solutions for the key issues identified. Finally, present them in teams. | Can present solutions for important issues through inclusive design. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Behavior | Report | Other | Total |
|-------------------------|-------------|--------------|-------------------------------------|----------|--------|-------|-------|
| Subtotal | 0 | 70 | 0 | 0 | 30 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cross Area Proficiency | 0 | 70 | 0 | 0 | 30 | 0 | 100 |

| | | | | | |
|--|--|---------------------------------------|--|---|---|
| Akashi College | | Year | 2021 | Course Title | Off-Campus Practical Training |
| Course Information | | | | | |
| Course Code | 0016 | | Course Category | Specialized / Compulsory | |
| Class Format | Practical training | | Credits | School Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Year-round | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | | | | | |
| Course Objectives | | | | | |
| (1) Can experience some of the actual technical activities at the host companies and work on solving problems with the necessary assistance. | | | | | |
| (2) Can work collaboratively in the assigned workplaces and think freely. | | | | | |
| (3) Can report effectively what has been learned empirically. | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can experience some of the actual technical activities at the host companies and actively work on solving problems with the necessary assistance. | | Can experience some of the actual technical activities at the host companies and work on solving problems with the necessary assistance. | | Cannot experience some of the actual technical activities at the host companies and work on solving problems with the necessary assistance. |
| Achievement 2 | Can work collaboratively in the assigned workplace and actively think freely. | | Can work collaboratively in the assigned workplace and think freely. | | Cannot work collaboratively in the assigned workplace and think freely. |
| Achievement 3 | Can effectively and appropriately report what has been learned empirically. | | Can effectively report what has been learned empirically. | | Cannot effectively report what has been learned empirically. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (E) 学習・教育目標 (F) 学習・教育目標 (G) | | | | | |
| Teaching Method | | | | | |
| Outline | This course is set up as part of an introduction for an internship and sandwich system. The aim is to gain a sense of practical technology through technical experience in companies or government agencies, etc., and to use the results obtained from technical experience in learning. | | | | |
| Style | Follow the host company instructor's instructions. | | | | |
| Notice | <p>Read the Akashi Kosen Graduate Study Internship Guidelines carefully, and closely communicate with the department principal or with the faculty of basic engineering research or special research. During the internship period, students should actively try to acquire technical and other skills, and dress and use language that is appropriate for an intern. The internship period shall be at least 10 working days during the summer holidays, etc. The graduate study internship may include up to 15 hours of preliminary guidance (manner lesson, preliminary research on the host company), debrief sessions, and time for preparing reports, with a total of 90 hours.</p> <p>If it is determined that conducting the internship at a company or other institution will be difficult due to things like social circumstances, and if it is necessary to provide reasonable consideration for students, the internship will be replaced with research on companies, etc., related to the field of graduate study. In that case, the evaluation will consist of an evaluation by research advisers for students' research on companies, etc. (30%), the research report (30%), and outcomes debrief session results (40%). In the Course Objectives and Aims and the Rubric Evaluation items, the following items should be replaced as follows:</p> <p>(1) "Experience some of the actual technical activities at the host companies, etc." as "conduct research and study using the specified methods of the companies, etc., of research target and to obtain advice from the members or supervising faculty member of research there."</p> <p>(2) "Work collaboratively in the assigned workplace" as "contribute to the activities of company of target research."</p> <p>(3) "What has been learned empirically" as "one's own research result."</p> | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Guidance | Reminders about precautions of internship and manners at the host company, etc. | |
| | | 2nd | Internship | Get individual technical experience at the host company. | |
| | | 3rd | Same as above | Same as above | |
| | | 4th | Same as above | Same as above | |
| | | 5th | Same as above | Same as above | |
| | | 6th | Same as above | Same as above | |
| | | 7th | Same as above | Same as above | |
| | | 8th | Same as above | Same as above | |
| | 2nd Quarter | 9th | Same as above | Same as above | |
| | | 10th | Same as above | Same as above | |
| | | 11th | Same as above | Same as above | |
| | | 12th | Same as above | Same as above | |

| | | | | |
|--------------|-------------|------|----------------------------|--|
| 2nd Semester | | 13th | Same as above | Same as above |
| | | 14th | Same as above | Same as above |
| | | 15th | Same as above | Same as above |
| | | 16th | No final exam | |
| | 3rd Quarter | 1st | Same as above | Same as above |
| | | 2nd | Same as above | Same as above |
| | | 3rd | Same as above | Same as above |
| | | 4th | Same as above | Same as above |
| | | 5th | Same as above | Same as above |
| | | 6th | Same as above | Same as above |
| | | 7th | Same as above | Same as above |
| | | 8th | Same as above | Same as above |
| | 4th Quarter | 9th | Same as above | Same as above |
| | | 10th | Same as above | Same as above |
| | | 11th | Same as above | Same as above |
| | | 12th | Same as above | Same as above |
| | | 13th | Same as above | Same as above |
| | | 14th | Same as above | Same as above |
| | | 15th | Internship debrief session | A presentation on the overall outcomes of the internship . |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Evaluation of the training destination | Report | Debriefing session | Total |
|-------------------------|--|--------|--------------------|-------|
| Subtotal | 30 | 30 | 40 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 30 | 30 | 40 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 |

| | | | | | |
|---|---|---------------------------------------|--|--|---|
| Akashi College | | Year | 2021 | Course Title | Preliminary Research Studies |
| Course Information | | | | | |
| Course Code | 0017 | | Course Category | Specialized / Compulsory | |
| Class Format | Seminar | | Credits | School Credit: 4 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Year-round | | Classes per Week | 4 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | | | | | |
| Course Objectives | | | | | |
| (1) Can integrate and deepen expertise, and examine it theoretically, systematically, practically, and creatively from a wide perspective toward solving problems. (2) Can summarize obtained research results as reports and posters, communicate them verbally to others, and discuss them. (3) Can engage in learning and research independently and continuously. | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can integrate and deepen expertise, and examine it theoretically, systematically, practically, and creatively from a wide perspective toward solving problems. | | Can integrate and deepen expertise, and examine it theoretically, systematically, and practically from a wide perspective toward solving problems. | | Cannot integrate and deepen expertise, and examine it theoretically, systematically, and practically from a wide perspective toward solving problems. |
| Achievement 2 | Can fully summarize obtained research results as reports and posters, communicate them verbally in a comprehensible manner to others, and discuss them. | | Can summarize obtained research results as reports and posters, communicate them verbally to others, and discuss them. | | Cannot summarize obtained research results as reports and posters, communicate them verbally to others, and discuss them. |
| Achievement 3 | Can fully engage in learning and research independently and continuously. | | Can engage in learning and research independently and continuously. | | Cannot engage in learning and research independently and continuously. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (E) 学習・教育目標 (G) | | | | | |
| Teaching Method | | | | | |
| Outline | This course is based on graduation research in the department, and will conduct research in the mechanical and electronic system engineering fields at a higher level under the supervision of the faculty member in charge. The aim is to acquire the background knowledge that serves as a foundation for graduate study's special research. | | | | |
| Style | In the course, as it is particularly important for students to work towards research voluntarily, the faculty members in charge will first present planned themes for setting up a research theme. The theme will then be decided after discussing with students with utmost respect to their engineering interests. Furthermore, from exploring the issues given, thinking about the approach methods, right up to answering the questions, students will carry out each research process independently and based on their own judgment as much as possible. | | | | |
| Notice | This course's content will amount to 180 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Promote research independently and actively based on the background knowledge cultivated in the department. Other conditions for missing classes that will make students ineligible for a passing grade | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Setting the research theme Each faculty member in charge will explain and direct each individual. | Can determine research themes independently under each teaching staff. | |
| | | 2nd | Individual research Carry out separately under supervision of each faculty member in charge. | Can independently and continuously conduct studies and research under each teaching staff. | |
| | | 3rd | Individual research Same as above | Same as above | |
| | | 4th | Individual research Same as above | Same as above | |
| | | 5th | Individual research Same as above | Same as above | |
| | | 6th | Individual research Same as above | Same as above | |
| | | 7th | Individual research Same as above | Same as above | |
| | | 8th | Individual research Same as above | Same as above | |
| | | 2nd Quarter | 9th | Individual research Same as above | Same as above |

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|--------------|-------------|------|--------------------------------------|--|
| | | 10th | Individual research Same as above | Same as above |
| | | 11th | Individual research Same as above | Same as above |
| | | 12th | Individual research Same as above | Same as above |
| | | 13th | Individual research Same as above | Same as above |
| | | 14th | Individual research Same as above | Same as above |
| | | 15th | Individual research Same as above | Same as above |
| | | 16th | No final exam | |
| 2nd Semester | 3rd Quarter | 1st | Individual research Same as above | Same as above |
| | | 2nd | Individual research Same as above | Same as above |
| | | 3rd | Individual research Same as above | Same as above |
| | | 4th | Individual research Same as above | Same as above |
| | | 5th | Individual research Same as above | Same as above |
| | | 6th | Individual research Same as above | Same as above |
| | | 7th | Individual research Same as above | Same as above |
| | | 8th | Individual research Same as above | Same as above |
| | 4th Quarter | 9th | Individual research Same as above | Same as above |
| | | 10th | Individual research Same as above | Same as above |
| | | 11th | Individual research Same as above | Same as above |
| | | 12th | Individual research Same as above | Same as above |
| | | 13th | Individual research Same as above | Same as above |
| | | 14th | Individual research Same as above | Same as above |
| | | 15th | Presentation review meeting | Can summarize obtained research results as reports and posters, communicate them verbally to others, and discuss them. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Report | Autonomy | Portfolio | Other | Total |
|-------------------------|-------------|--------------|--------|----------|-----------|-------|-------|
| Subtotal | 0 | 30 | 40 | 30 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 10 | 20 | 10 | 0 | 0 | 40 |
| Specialized Proficiency | 0 | 20 | 20 | 20 | 0 | 0 | 60 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|--|---------------------------------------|--|--|--|
| Akashi College | | Year | 2021 | Course Title | Advanced Strength of Structures |
| Course Information | | | | | |
| Course Code | 0018 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | handouts | | | | |
| Instructor | ISHIMARU Kazuhiro, NAKAGAWA Hajime | | | | |
| Course Objectives | | | | | |
| (1) Can introduce content related to structural mechanics in English based on the knowledge obtained so far in the Architecture and Civil Engineering departments (H) (Nakagawa). (2) Can solve statically indeterminate structures using the three moment method (F) (Ishimaru). (3) Can derive the deflection formula for thin plates from the basic formula (F) (Ishimaru). | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can properly explain content related to structural mechanics in English | | Can explain content related to structural mechanics in English | | Cannot explain content related to structural mechanics in English |
| Achievement 2 | Can solve and explain statically indeterminate structures using the three moment method | | Can solve statically indeterminate structures using the three moment method | | Cannot solve statically indeterminate structures using the three moment method |
| Achievement 3 | Can derive the deflection formula for thin plates from the basic formula and explain it | | Can derive the deflection formula for thin plates from the basic formula | | Cannot derive the deflection formula for thin plates from the basic formula |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | 1. Introduce in English structural mechanics studied in the Regular Course. Group learning will be conducted using active learning education (AL education). (Taught by Nakagawa: 7 weeks) 2. Structural mechanics: Each group will present and explain to each other their research on the three moment method for solving statically indeterminate structures to deepen their understanding. In addition, there will be lectures on solutions for thin plates. (Taught by Ishimaru: 8 weeks) This course will be taught by an instructor (Nakagawa) who was involved in structural design of buildings at a company by making use of his experience, so that students can present in English structural mechanics that they studied in the Regular Course. | | | | |
| Style | The lectures will be divided into two halves: Nakagawa will teach the first, and Ishimaru the second. 1. The exercises to introduce structural mechanics in English will be done in groups. Students will mingle together and discuss various details to create content in English regardless of whether they are from the Architecture or Civil Engineering department. The teacher in charge (Nakagawa) will provide supplementary lessons on structural mechanics as appropriate during the classes, and will provide instructions for creating English presentations. 2. Studies regarding the three moments method are basically base in groups. After understanding the solution, students will then individually create questions and answers to deepen their understanding. For solutions for thin plates, students will be taught in the usual lecture style. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Before taking the course, carefully pre-study the handouts distributed in advance to fully understand the content to attend classes. Students will be required to be able to solve and calculate differential equations for report assignments. Students who miss 1/3 or more of classes will not be eligible for a passing grade. The minimum score for a pass will be 60% based on the following performance evaluation methods. The overall evaluation will be calculated with the following ratio of each teacher in charge: Nakagawa 1/2 and Ishimaru 1/2. Nakagawa: Assignment presentation for 1 (60%), and a report for (2) (40%). Ishimaru: Evaluations will be based on : 1. Each group's presentation on the questions, answers, and solution methods for statically indeterminate structures (20%) 2. Exams (60%) 3. A report on the thin plates solutions (20%) The report assignments are as follows: Nakagawa: Evaluations will be based on the assignment presentation (30%) and the graduation research introduction in English (20%). | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| <input type="checkbox"/> Instructor Professionally Experienced | | | | | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Class plans and guidance Explain the class plans and content of this course. Explain the outline of structural mechanics (statically determinate and indeterminate mechanics) studied in the Regular Course. | Can understand the class plans and the content of this course. | |
| | | 2nd | Content creation for the presentations on statically determinate mechanics (1) Discuss in groups and think specifically about what content to create. | Can discuss in group to work on the assignment and create content. | |

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| | | 3rd | Content creation for the presentations on statically determinate mechanics (2) Discuss in groups and think specifically about what content to create. Create presentation data. | Can discuss in group to work on the assignment and create content. |
| | | 4th | English presentations on statically determinate mechanics Each group will present their English summary on statically determinate mechanics using slides. Afterwards, discuss among the teacher and students. | Can make presentations in groups and ask questions to other groups. |
| | | 5th | Content creation for the presentations on statically indeterminate mechanics (1) Discuss in groups and think specifically about what content to create. | Can discuss in group to work on the assignment and create content. |
| | | 6th | Content creation for the presentations on statically indeterminate mechanics (2) Discuss in groups and think specifically about what content to create. | Can discuss in group to work on the assignment and create content. |
| | | 7th | English presentations on statically indeterminate mechanics Each group will present their English summary on statically indeterminate mechanics using slides. Afterwards, discuss among the teacher and students. | Can make presentations in groups and ask questions to other groups. |
| | | 8th | Review on the sectional forces of beams Find sectional forces diagrams of beams as a review. | Can find sectional forces diagrams of beams |
| | 2nd Quarter | 9th | Solutions for the three moment method 1 Research in groups the three moment method, which is a means for solving statically indeterminate structures to understand it together. | Research and understand the solution for the three moment method on one's own. |
| | | 10th | Solutions for the three moment method 2 Using a solution with the three moment method as an example, create a question on one's own that is solved using the three moment method and answer for it. | Using the three moment method, can create a question on one's own that is solved using the three moment method and the answer for it |
| | | 11th | Solutions for the three moment method 3 Solve questions created by other students, and then score other students' answers who have solved the question you created. | Can score the other students' answers who have solved the question you have created |
| | | 12th | Learning the three moment method Each person will explain the solution for a problem in front of all other students, and learn the three moment method. | Can explain the answer of the question you have created |
| | | 13th | Solution methods for beams Understand how to solve simple beams using a Fourier series. | Can solve simple beams using a Fourier series |
| | | 14th | Solutions for thin plates 1 Learn how to solve simply-supported thin plates based on the thin-plate theory. | Can explain how to solve simply-supported thin plates based on thin-plate theory. |
| | | 15th | Solutions for thin plates 2 Derive the deflection formula for simply-supported thin plates based on thin-plate theory. | Can explain how to solve simply-supported thin plates based on thin-plate theory. |
| | | 16th | Final exam | |

| Evaluation Method and Weight (%) | | | | | | | |
|----------------------------------|-------------|--------------|--------|----------|-----------|-------|-------|
| | Examination | Presentation | Report | Behavior | Portfolio | Other | Total |
| Subtotal | 30 | 40 | 30 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 30 | 40 | 30 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|---|---|--|---|---------------------|
| Akashi College | | Year | 2021 | Course Title | Structural System I |
| Course Information | | | | | |
| Course Code | 0019 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | ISHIMARU Kazuhiro,SHOJO Naoya | | | | |
| Course Objectives | | | | | |
| (1) Understand and can explain the elastoplastic behavior of simple structures (H) (Shojo). (2) Understand the nature of wood and can explain its use in civil engineering and building structures (H) (Shojo). (3) Understand and can explain earthquake- and wind-resistant designs (F) (Ishimaru). (4) Understand and can explain various design methods (F) (Ishimaru). | | | | | |
| Rubric | | | | | |
| | Ideal Level | Standard Level | | Unacceptable Level | |
| Achievement 1 | Can explain in detail the elastoplastic behavior of simple structures. | Can explain the elastoplastic behavior of simple structures. | | Cannot explain the elastoplastic behavior of simple structures. | |
| Achievement 2 | Can explain in detail the use of wood in civil engineering and building structures. | Can explain the use of wood in civil engineering and building structures. | | Cannot explain the use of wood in civil engineering and building structures. | |
| Achievement 3 | Can explain in detail earthquake- and wind-resistant designs. | Can explain earthquake- and wind-resistant designs. | | Cannot explain earthquake- and wind-resistant designs. | |
| | Can explain in detail the elastic and the plastic design methods. | Can explain the elastic and the plastic design methods. | | Cannot explain the elastic and the plastic design methods. | |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | This course will follow on from Structural Mechanics, Steel Structures, and Structural Concrete Design, taught in Kosen Regular Course. Classes will lecture on the plastic design method for structures, the use of wood in civil engineering and building structures, and structure design technology by numerical analysis and their basic theories in an omnibus format. 1. Lectures related to the plastic design method and use of wood (Taught by Shojo: Weeks 1 to 8) 2. Lectures related to structure design systems (Taught by Ishimaru: Weeks 9 to 15) | | | | |
| Style | Classes will be conducted mainly using handouts (materials and literature) or by taking notes. The lectures will be organized in an omnibus format and divided into two halves. Shojo and Ishimaru will teach the first and second halves, respectively. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Before taking the course, students should carefully read the materials distributed in advance to fully understand the content. In addition, students must have fully learned subjects such as Structural Mechanics, Structural Design, and Applied Mathematics. Students who miss 1/3 or more of classes will not be eligible for a passing grade. The minimum score for a pass will be 60%. The achievement targets are: 1. For Shojo's lessons, the evaluation will be based on exams (20%) and reports (30%) (50% in total). The report assignments are as follows: ・ Calculations based on plastic design for various structures, and investigations and proposals related to the use of wood. 2. For Ishimaru's lessons, the evaluation will be based on exams (30%) and reports (20%) (50% in total). The report assignments are as follows: ・ Stress, deflection, and shrinkage model calculations for real-world models. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | Class guidance and basic structural mechanics exercises Understand the outline for this class and conduct exercises related to stress diagrams for statically determinate beams. (Taught by Shojo) | Can draw stress diagrams for statically determinate beams for various loads and support conditions | |
| | | 2nd | History of plastic design and the design method Explain the history of plastic design and the concept and ideas of the design method. (Taught by Shojo) | Understand the concept of plastic design method. | |
| | | 3rd | Plastic design method for beams Explain the mechanical model of materials and the elastoplastic behavior of beams. (Taught by Shojo) | Can explain the mechanical model of materials and the elastoplastic behavior of beams. | |

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| | | 4th | Plastic design method for beams Explain the mechanical model of materials and the elastoplastic behavior of beams. (Taught by Shojo) | Can explain the mechanical model of materials and the elastoplastic behavior of beams. |
| | | 5th | Significance of wood use in the construction sector Explain the history and current status of wood use and its significance along with environmental issues. (Taught by Shojo) | Can explain the history and current status of wood use and its significance along with environmental issues. |
| | | 6th | Nature and types of wood Explain the nature of wood and the types of building materials that use various types of wood. (Taught by Shojo) | Can explain the nature of wood and the types of building materials that use various types of wood. |
| | | 7th | Past usage of wood Explain wood use in civil engineering and building structures. (Taught by Shojo) | Can explain wood use in civil engineering and building structures. |
| | | 8th | Past usage of wood Explain wood use in civil engineering and building structures. (Taught by Shojo) | Can explain wood use in civil engineering and building structures. |
| | 4th Quarter | 9th | Civil engineering and building structures characteristics Describe the characteristics of civil engineering and building structures and discuss their requirements. (Taught by Ishimaru) | Civil engineering and building structures characteristics Can describe the characteristics of civil engineering and building structures and explain their requirements. |
| | | 10th | The flow of structural design Describe the flow of structural design methods for various structures. (Taught by Ishimaru) | Can explain the flow of structural design methods. |
| | | 11th | Steel and concrete structure design Describe the characteristics of steel and concrete structures. (Taught by Ishimaru) | Can explain the characteristics of steel and concrete structures. |
| | | 12th | Load types and classification Explain the loads that structures are subjected to. In addition, discuss the types and classifications of loads and the design loads. (Taught by Ishimaru) | Can explain the loads that structures are subjected to. |
| | | 13th | Earthquake- and wind-resistant design concepts Both seismic forces and winds are more likely different from other loads in terms of their significant dynamic effects on civil engineering structures. Describe the design theory-like concepts for earthquake- and wind-resistant designs. (Taught by Ishimaru) | Can explain earthquake- and wind-resistant designs. |
| | | 14th | Design methods for structures (1) Describe the concepts of the elastic and plastic design methods. (Taught by Ishimaru) | Can explain the concepts of the elastic and plastic design methods. |
| | | 15th | Design methods for structures (2) Describe the concepts of the elastic and plastic design methods. (Taught by Ishimaru) | Explain the elastic and plastic design methods and can solve them specifically. |
| | | 16th | Final exam (Taught by Shojo and Ishimaru) | |

Evaluation Method and Weight (%)

| | Examination | Report | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|-------------------------|-------------|--------|-------------------------------------|----------|-----------|-------|-------|
| Subtotal | 50 | 50 | 0 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 50 | 50 | 0 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | |
|--|--|---------------------------------------|--|--|---|
| Akashi College | | Year | 2021 | Course Title | Construction Management |
| Course Information | | | | | |
| Course Code | 0020 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | OTSUKA Takehiko,SANJYO Kenji | | | | |
| Course Objectives | | | | | |
| (1) Understand and can explain the significance of asset management and infrastructure life extension plans, etc. (D) (H) (Sanjo) (2) CM, PM, and FM Through lectures on individual work occurrences and characteristics, understand the personnel and qualifications needed and changes in the structure of work and viewpoints toward construction (D). (Otsuka) (3) Can examine the feasibility of CM and consulting in Japan through lectures on practical examples (H). (Otsuka) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Understand and can explain in detail the significance of asset management and infrastructure life extension plans, etc. | | Understand and can explain the significance of asset management and infrastructure life extension plans, etc. | | Do not understand and cannot explain the significance of asset management and infrastructure life extension plans, etc. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | In Japan, amid strict budget constraints, the "asset management" initiative is being pursued to efficiently manage infrastructure and maintain and update it at a low cost. This course will lecture on infrastructure life extension plans, etc., which have been formulated as measures to mitigate infrastructure obsolescence under these circumstances. It will also teach the background of construction management (CM) and the content of CM, PM, and FM, and cover organizational management and welfare administration as examples. Sanjo will be in charge of the first eight weeks, and Otsuka will be in charge of the last seven weeks in an omnibus style. Sanjo will provide classes that take advantage of his experience at local public organizations, etc., engaging in large-scale projects such as Kansai International Airport. | | | | |
| Style | Classes will be provided mainly in a lecture-style format. The liaison at Akashi Kosen for Sanjo who teach this course is Takao Miyoshi. | | | | |
| Notice | This course's content will amount to 90 hours in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Before taking this course, students must have learned the following courses or subjects that have the equivalent details: Infrastructure Maintenance Engineering in year 5 at the Civil Engineering Department and Building Construction and Process in year 5 at the Architecture Department of our college. Create and present a report based on instructions. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester r | 3rd Quarter | 1st | Significance of asset management in public works (Sanjo) Outline of the background of Japan's infrastructure development and the current state of maintenance and management, and explain the need and significance of asset management in the construction sector. | Can explain the need and significance of asset management in the construction sector. | |
| | | 2nd | Overview of infrastructure life extension plans (Sanjo) Learn about planning processes, ideals, basic approaches, plan details, etc. | Can explain planning processes, ideals, basic approaches, plan details, etc. | |
| | | 3rd | Outline of action plans for infrastructure life extension (Sanjo) Learn about the target facility's current situation, issues, direction of efforts, etc., through an explanation of the action plan formulated by the Ministry of Land, Infrastructure, Transport and Tourism. | Can explain the target facility's current situation, issues, and direction of efforts, etc., based on the Ministry of Land, Infrastructure, Transport and Tourism's action plan. | |
| | | 4th | Infrastructure life extension plans (Sanjo) Learn about basic approaches, plan details, etc., through explanations of the plans formulated by local governments. | Can explain the basic approaches, plan details, etc., based on plans formulated by local governments. | |
| | | 5th | Action plans for infrastructure life extension (Sanjo) Learn about road facility life extension plans. | Can explain road facility life extension plans. | |
| | | 6th | Action plans for infrastructure life extension (Sanjo) Learn about life extension plans for river management facilities. | Can explain life extension plans for river management facilities. | |

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| | | 7th | Action plans for infrastructure life extension (Sanjo) Learn about life extension plans for port and coastal facilities. | Can explain life extension plans for port and coastal facilities. |
| | | 8th | Action plans for infrastructure life extension (Sanjo) Learn about life extension plans for sewage facilities. | Can explain life extension plans for sewage facilities. |
| | 4th Quarter | 9th | Lecture on what is project management (Otsuka), project management systems, and the PMBOK. | Can explain project management systems and the PMBOK |
| | | 10th | Significance and issues of CM in the Japanese economy (Otsuka) Explain the significance of CM, which has been stated as one of the new industries that will break the Japanese economy's deadlock. | Can explain the concept and details of CM. |
| | | 11th | PM and FM (Otsuka) Explain that FM and CM have been specialized from project management derivation and development and the expansion of business, and examine Japan's disposition to be less project-oriented than the West. | Can explain the concept of PM, FM, and CM. |
| | | 12th | PFI and PPP in the construction sector (Otsuka) Explain the PFI and PPP initiatives in Japan using specific examples | Can explain PFI and PPP with examples. |
| | | 13th | Various organizational management (Otsuka) Explain the latest examples of various companies' organizational management. | Can explain modern organizational management. |
| | | 14th | Comprehensive management plans for public facilities, etc., in local governments (Otsuka) Examine local government's action plans using examples such as Takasago City | Can explain local government's comprehensive management plans for public facilities, etc. |
| | | 15th | Compliance and crisis management in the construction and welfare sectors (Otsuka) Explain compliance for barrier-free buildings and near misses (crisis management) in the welfare sector. Explain crisis management and near misses in the welfare sector, using examples of housing improvement for the elderly and disabled in Japan. | Can explain compliance and near misses in barrier-free buildings. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Report(Attainment target(1)) | Examination(Attainment target(2)) | Report(Attainment target(3)) | Total |
|-------------------------|------------------------------|-----------------------------------|------------------------------|-------|
| Subtotal | 50 | 30 | 20 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 50 | 30 | 20 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 |

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|---|-------------|---|---|---|---|--|--|
| Akashi College | | Year | 2021 | | Course Title | Advanced Geotechnical Engineering | |
| Course Information | | | | | | | |
| Course Code | | 0021 | | Course Category | | Specialized / Elective | |
| Class Format | | Lecture | | Credits | | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 1st | |
| Term | | Second Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | NABESHIMA Yasuyuki,EBISU Takeshi | | | | | |
| Course Objectives | | | | | | | |
| (1) The shear behavior and yield criterion of soil: Learn about the shear behavior of soil related to ground destruction (learning and educational goal [H]). Also understand the relationship with geotechnical engineering studied so far, and acquire the ability to explain soil's shear behavior and yield criterion (learning and educational goals [H]). | | | | | | | |
| (2) Can reasonably plan and design countermeasures against geotechnical engineering problems (E, F and H). | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Can explain in detail the shear behavior and yield criterion of soil. | | Can explain the shear behavior and yield criterion of soil. | | Cannot explain the shear behavior and yield criterion of soil. | |
| Achievement 2 | | Can reasonably plan and design concrete countermeasures against geotechnical engineering problems. | | Can reasonably plan and design countermeasures against geotechnical engineering problems. | | Cannot reasonably plan and design countermeasures against geotechnical engineering problems. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (E) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | The shear behavior and yield criterion of soil: Students will learn about the shear behavior of soil related to ground destruction and also understand the yield criterion of soil. In addition, they will develop the necessary perspectives for systematically understanding the processes from ground surveys to construction, and learn measures and the latest technologies to address various geotechnical engineering issues. (Omnibus format: Nabeshima will teach weeks 1 to 8 and 10 to 11, and Ebisu week 9 and weeks 12 to 14) In this course, teachers who were in charge of investigating, measuring, designing, simulating, maintaining, and controlling ground disasters will teach students a wide range of topics related to slope disaster prevention technology in a lecture style, making use of their experience. | | | | | |
| Style | | The classes will be held in a lecture-style format, including some presentations by students. (Omnibus format: Nabeshima will teach weeks 1 to 8 and 10 to 11, and Ebisu week 9 and weeks 12 to 14) | | | | | |
| Notice | | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
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| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 2nd Semester r | 3rd Quarter | 1st | The concept of effective stress [Nabeshima] Explain the concept of effective stress, principal stresses, the planes of principal stresses, and Mohr's stress circles. | | Learn about the concept of effective stress, principal stresses, the planes of principal stresses, and Mohr's stress circles. | | |
| | | 2nd | Soil yield criterion (1) [Nabeshima] Explain what a soil yield criterion is. | | Learn about the concept of the soil yield criterion and Coulomb yield criterion. | | |
| | | 3rd | Soil yield criterion (2) [Nabeshima] Explain application examples of the Mohr-Coulomb yield criterion for geotechnical engineering problems. | | Explain application examples of the Mohr-Coulomb yield criterion for geotechnical engineering problems. | | |
| | | 4th | Soil shear tests [Nabeshima] Explain the objectives of soil shear tests, the characteristics of a direct shear test and unconfined and triaxial compression tests. | | Learn about the objectives of soil shear tests, the characteristics of a direct shear test and unconfined and triaxial compression tests. | | |
| | | 5th | Soil shear behavior (1) [Nabeshima] Explain soil's shear strength, and also explain consolidation and drainage conditions and the shear strength of clay. | | Explain soil's shear strength, and also learn about consolidation and drainage conditions and the shear strength of clay. | | |
| | | 6th | Soil shear behavior (2) [Nabeshima] Explain the dilatancy behavior of soil and the occurrence mechanism of sand liquefaction phenomena. | | Learn about the dilatancy behavior of soil and the occurrence mechanism of sand liquefaction phenomena. | | |
| | | 7th | Ground surveys and soil shear strength [Nabeshima] Explain the use of N-values obtained from standard penetration tests and the relationship with soil shear strength. | | Learn about the use of N-values obtained from standard penetration tests and the relationship with soil shear strength. | | |

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| 4th Quarter | 8th | Midterm exam [Nabeshima] Test the range of content learned from weeks 1 to 7. | |
| | 9th | Overview of slope disaster prevention (collapse, debris flow, landslide) [Ebisu] | Learn about the basic forms of landslide disasters and an outline of the countermeasures. |
| | 10th | Identifying ground [Nabeshima] Lecture on how to view boring data, standard penetration tests, soil columnar sections, and the clues for identifying ground. | Learn about how to view ground survey results and the clues for identifying ground. |
| | 11th | Geotechnical engineering and geology [Nabeshima] Talk about the relationship between geotechnical engineering and geology and explain the topography and geology of the Japanese Archipelago. | Learn about the relationship between geotechnical engineering and geology and the topography and geology of the Japanese Archipelago. |
| | 12th | New research tools for slope disaster prevention [Ebisu] Explain the characteristics and use cases of new research tools such as UAVs, airborne LPs, interferometric SARs. | Learn about the principles, advantages and disadvantages, and utilization setting of various research tools. |
| | 13th | Topography and disasters [Ebisu] Explain topographic terminology and disaster risks in terms of topographical data with topographical interpretation exercises. | Learn the basic details on topography and topographical interpretation, and topographic risks. |
| | 14th | Simulation of evacuation behavior during heavy rainfall [Ebisu] Experience evacuation behavior via simulation in terms of the diverse viewpoints of residents, and learn about the issues of regional disaster prevention in a workshop style. | Using the educational material for disaster prevention, EVAG, learn the importance of software countermeasures, warning and evacuation against heavy rain disasters, and how to extract issues from the residents' point of view. |
| | 15th | Maintenance and management of the Highway Act and other laws [Ebisu] Explain the inspection, maintenance, and management operations of anchor work placed on the Meishin Expressway. | Learn about the structure of ground anchors, lift-off testing techniques, and how to organize data. |
| | 16th | Final exam [Nabeshima] | |

Evaluation Method and Weight (%)

| | Examination | Exercise | Mutual Evaluations between students | Behavior | Total |
|-------------------------|-------------|----------|-------------------------------------|----------|-------|
| Subtotal | 70 | 20 | 10 | 0 | 100 |
| Basic Proficiency | 0 | 10 | 10 | 0 | 20 |
| Specialized Proficiency | 70 | 10 | 0 | 0 | 80 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 |

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|---|--|---------------------------------------|---|--|---|
| Akashi College | | Year | 2021 | Course Title | Transportation Planning |
| Course Information | | | | | |
| Course Code | 0022 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | ISHIMATSU Kazuhito | | | | |
| Course Objectives | | | | | |
| (1) Understand city- and transportation-related terms and the characteristics of means of transportation (F). (2) Understand the current situation of traffic problems and learn the concepts and methods of traffic surveys (F). (3) Understand the mechanism of traffic generation and can predict future traffic demand (H). (4) Can enumerate and develop alternative transportation plans and estimate their impact and benefits. | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can systematically explain city- and transportation-related terms and the characteristics of means of transportation. | | Can explain city- and transportation-related terms and the characteristics of means of transportation. | | Cannot explain city- and transportation-related terms and the characteristics of means of transportation. |
| Achievement 2 | Understand the current situation of traffic problems and can systematically explain the concepts and methods of traffic surveys. | | Understand the current situation of traffic problems and can explain the concepts and methods of traffic surveys. | | Do not understand the current situation of traffic problems and cannot explain the concepts and methods of traffic surveys. |
| Achievement 3 | Understand the mechanism of traffic generation and can comprehensively predict future traffic demand. | | Understand the mechanism of traffic generation and can predict future traffic demand. | | Do not understand the mechanism of traffic generation and cannot predict future traffic demand. |
| | Can enumerate and develop alternative transportation plans and comprehensively their impact and benefits. | | Can enumerate and develop alternative transportation plans and estimate their impact and benefits. | | Cannot enumerate and develop alternative transportation plans and estimate their impact and benefits. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | This course will be taught by an instructor who is a member of a private think tank and was in charge of urban and regional planning and economic analysis. Traffic is an inseparable part of urban activities. The lessons will examine the characteristics of traffic which demands transportation facilities, and appropriateness of transportation means that supply transportation facilities, and lecture on the construction of a desirable transportation system from a broad perspective. | | | | |
| Style | The course will be carried out in a balanced manner, combining textbook-based lectures, student presentations, and group discussions. The overall evaluation will be based 60% on periodic exams, 30% on presentations, 10% on attitude toward class activities such as Q&A sessions. The minimum score for a pass will be 60%. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Related courses include Planning, City Planning, and Traffic Engineering, which have been offered in the Civil Engineering Department. Although it is desirable to acquire basic knowledge of these subjects, lessons will be taught as simply as possible regardless of whether students are from the Civil Engineering or Architecture departments. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | The history and mechanism of cities Lecture on the historical background of urban development from the viewpoint of traffic generation mechanisms, given that transportation overcomes urban activities' space constraints. | Can explain the historical background of urban development from the viewpoint of traffic generation mechanisms, given that transportation overcomes urban activities' space constraints. | |
| | | 2nd | Traffic problems Explain traffic problems generated both inside and outside cities through mechanisms of cities and traffic generation. | Can explain traffic problems generated both inside and outside cities through mechanisms of cities and traffic generation. | |
| | | 3rd | Traffic characteristics and means of transportation Traffic is a derivative act associated with urban activities, and its nature varies greatly depending on them, too. Lecture on traffic characteristics and the means of transportation for servicing it. | Can explain traffic characteristics and the means of transportation for servicing it. | |

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| | | 4th | Actual traffic conditions and surveys In addition to personal attributes, factors that define traffic include traffic purpose, land use, facility use, time, required time, means, and cost. Lecture on actual traffic conditions and survey methods, focusing on the Person Trip Survey. | Can explain actual traffic conditions and survey methods, focusing on the Person Trip Survey. |
| | | 5th | Traffic demand forecasts I (Occurrence-intensive traffic forecasts: Part 1) Lecture on the synthetic function model method and the original unit method, etc., for the forecast of occurrence-intensive traffic that corresponds to the first stage of the four-stage estimation method for a traffic demand forecast. | Can explain the synthetic function model method and the original unit method that are required for the forecast of occurrence-intensive traffic that corresponds to the first stage of the four-stage estimation method for a traffic demand forecast. |
| | | 6th | Traffic demand forecasts I (Occurrence-intensive traffic forecasts: Part 2) Following on from the previous lesson, lecture on the forecast of occurrence-intensive traffic that corresponds to the first stage of the four-stage estimation method for a traffic demand forecast. | Can systematically explain the forecast of occurrence-intensive traffic that corresponds to the first stage of the four-stage estimation method for a traffic demand forecast. |
| | | 7th | Traffic demand forecasts II (Distributed traffic volume forecasts: Part 1) Lecture on the present pattern, gravitational model, and probability model methods, etc., for the forecast of distributed traffic volume (OD traffic volume) that corresponds to the second stage of the four-stage estimation method. | Can explain the present pattern, gravitational model, and probability model methods, etc., that are required for the forecast of distributed traffic volume (OD traffic volume) that corresponds to the second stage of the four-stage estimation method. |
| | | 8th | Traffic demand forecasts II (Distributed traffic volume forecasts: Part 2) Lecture on the forecast of distributed traffic volume (OD traffic volume) that corresponds to the second stage of the four-stage estimation method, following on from the previous lecture. | Can systematically explain the forecast of distributed traffic volume (OD traffic volume) that corresponds to the second stage of the four-stage estimation method. |
| | 2nd Quarter | 9th | Traffic demand forecasts III (Forecast of assessment scale by transportation means) Lecture on the present pattern, cost minimization, and utility maximization methods, etc., using a modal share curve for the forecast of assessment scale by transportation means that corresponds to the third stage of the four-stage estimation method, and from the viewpoint of disaggregated models in addition to that. | Can explain the present pattern, cost minimization, and utility maximization methods, etc., using a modal share curve that is required for the forecast of assessment scale by transportation means that corresponds to the third stage of the four-stage estimation method. |
| | | 10th | Traffic demand forecasts IV (Forecast of assigned traffic volume) Lecture on the method for assigning automobile traffic to road networks from an actual assignment perspective, taking into account capacity constraints, for the forecast of assigned traffic volume that corresponds to the fourth stage of the four-stage estimation method. | Can explain the method for assigning automobile traffic to road networks from an actual assignment perspective, taking into account capacity constraints, for the forecast of assigned traffic volume that corresponds to the fourth stage of the four-stage estimation method. |
| | | 11th | Planning for transportation systems Lecture on approaches and methods for creating alternative transportation plans based on the traffic situation assigned to the transportation network using the four-stage estimation method with future land use as a condition. | Can explain approaches and methods for creating alternative transportation plans based on the traffic situation assigned to the transportation network using the four-stage estimation method with future land use as a condition. |
| | | 12th | Planning for district transportation In district-level transportation planning for smaller areas, safety and environmental considerations are more important than convenience. Lecture on the approaches and methods for district transportation planning. | Can explain the approaches and methods for district transportation planning. |
| | | 13th | Environmental problems and traffic Various environmental problems are occurring as automobiles become more prevalent. Lecture on environmental problems such as air pollution and noise, and the measures to take into account scenery and the declining birthrate and aging population. | Can explain environmental problems such as air pollution and noise, and the measures to take into account scenery and the declining birthrate and aging population. |
| | | 14th | New transportation measures TDM and MM Transportation planning has shifted from a demand-following type by way of a demand-restraining one toward mobility management. Lecture on the concepts and methods of new transportation measures, such as TDM and MM. | Can explain the concepts and methods of new transportation measures, such as TDM and MM. |
| | | 15th | Transportation strategies for town planning The advent of automobiles has had a great impact on urban space. Lecture on transportation strategies to choose the appropriate method from the many planning methods related to trade-offs from the perspective of town planning. | Can explain transportation strategies to choose the appropriate method from the many planning methods related to trade-offs from the perspective of town planning. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|----------|-------------|--------------|-------------------------------------|----------|-----------|-------|-------|
| Subtotal | 60 | 30 | 0 | 10 | 0 | 0 | 100 |

| | | | | | | | |
|-------------------------|----|----|---|----|---|---|-----|
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 60 | 30 | 0 | 10 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|---|---|---------------------------------------|--|---|------------------------|--|
| Akashi College | | Year | 2021 | | Course Title | Planning and Design of Urban Streetscape and Towns |
| Course Information | | | | | | |
| Course Code | 0023 | | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | | Student Grade | Adv. 1st | |
| Term | Second Semester | | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | MIZUSHIMA Akane | | | | | |
| Course Objectives | | | | | | |
| (1) Understand the basic mechanisms and topography that comprise urban spaces. (F) (2) Understand and interpret the regional characteristics of landscapes. (G) (3) Understand the value of regional environments and about landscape planning. (H) | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | | Standard Level | | Unacceptable Level |
| Achievement 1 | Understand the definitions and terminology of urban landscapes and can fully conduct research and analysis. | | | Understand the definitions and terminology of urban landscapes and can conduct research and analysis. | | Do not understand the definitions and terminology of urban landscapes and cannot conduct research and analysis. |
| Achievement 2 | Fully understand the concepts of plans related to urban landscape planning and the methods for harmonizing urban issues with the landscape. | | | Understand the concepts of plans related to urban landscape planning and the methods for harmonizing urban issues with the landscape. | | Do not understand the concepts of plans related to urban landscape planning and the methods for harmonizing urban issues with the landscape. |
| Achievement 3 | Can conduct a basic investigation of urban landscape planning and fully present the results. | | | Can conduct a basic investigation of urban landscape planning and present the results. | | Cannot conduct a basic investigation of urban landscape planning and present the results. |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (G) 学習・教育目標 (H) | | | | | | |
| Teaching Method | | | | | | |
| Outline | This course will focus on the landscape elements that make up urban landscapes, and study the basic planning theory necessary for landscape creation. The main pillar will be the planning theory which is about interpreting urban spaces and integrating planning and design methods and the overall details. This course will be held by a teacher who was involved in operations related to urban landscapes in a private think tank, etc., making use of their experience. | | | | | |
| Style | The aim is to deepen understanding of landscape planning through lectures and discussions, which will be followed by an on-site survey of the neighborhood to capture the landscape characteristics and consider the landscape planning. There will be no periodic tests. | | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 2nd Semester r | 3rd Quarter | 1st | Orientation Consider the meaning of learning about urban landscapes. | Understand what urban landscape planning is. | | |
| | | 2nd | From scenery to landscapes Consider the concepts surrounding scenery and landscapes that have been cultivated in history. | Understand the historical background surrounding scenery and landscapes. | | |
| | | 3rd | Preservation and formation of historical landscapes Consider the preservation and formation of historical landscapes. | Understand planning and design methods for preserving historical elements and forming the surrounding landscapes. | | |
| | | 4th | Village landscapes and living landscapes Consider landscapes that are linked to life. | Understand living landscapes. | | |
| | | 5th | Created images and urban landscape Consider landscapes to be consumed. | Understand the image of a city. | | |
| | | 6th | Disasters and urban landscapes Consider reconstruction planning and landscapes. | Understand reconstruction planning and landscapes. | | |
| | | 7th | Landscapes and value Consider a landscape's value that is found by street observation, etc. | Understand grasping landscapes by street observation and strolling around towns. | | |
| | | 8th | Community and urban landscapes Consider the subjects that protect landscapes. | Consider local communities and landscapes. | | |
| | 4th Quarter | 9th | Landscapes around us Consider the landscape around us. | Understand the real situation of landscape planning in nearby areas. | | |

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| | | 10th | Field survey 1 Learn survey methods for reviewing urban landscapes. | Can understand landscape survey methods. |
| | | 11th | Field survey 2 Conduct a field survey in groups to identify landscape issues. | Can conduct surveys and identify landscape issues. |
| | | 12th | Field survey 3 Conduct a field survey in groups to identify landscape issues. | Can conduct surveys and identify landscape issues. |
| | | 13th | Field survey 4 Summarize findings. | Can assess the identified landscape issues and create a landscape plan. |
| | | 14th | Field survey reporting session Present and discuss the survey results and the considered landscape plan. | Can present a landscape plan that was considered in groups and discuss it in the class. |
| | | 15th | Consider urban landscapes of the future Review the previous classes | Can discuss issues faced by today's urban landscape planning with proposals and opinions. |
| | | 16th | No final exam | No final exam |

Evaluation Method and Weight (%)

| | Report | Field survey | Presentation | Short report | Total |
|-------------------------|--------|--------------|--------------|--------------|-------|
| Subtotal | 50 | 30 | 10 | 10 | 100 |
| Basic Proficiency | 10 | 0 | 0 | 5 | 15 |
| Specialized Proficiency | 30 | 30 | 5 | 5 | 70 |
| Cross Area Proficiency | 10 | 0 | 5 | 0 | 15 |

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|---|--|--|--|---|--|
| Akashi College | | Year | 2021 | Course Title | History of World City |
| Course Information | | | | | |
| Course Code | 0024 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | 日端 康雄『都市計画の世界史』、講談社現代新書; Spiro Kostof, [The City Shaped: Urban Patterns and Meanings Through History], Bulfinch 1993またはプリントを配布する。 | | | | |
| Instructor | HIGASHINO Adriana P. | | | | |
| Course Objectives | | | | | |
| Understand the modern urban environment by tracing the history of urban formation. (1) Understand the process of urban formation since the early modern period. (A) (2) To acquire historical and social basic knowledge of the city. (H) (3) This lecture points out problems in urban planning and asks the student to think about the city's living environment and develop the ability to propose solutions. (F) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | To well understand the process of urban formation since the early modern period. | | To understand the process of urban formation since the early modern period. | | Do not understand the process of urban formation since the early modern period. |
| Achievement 2 | The student knows the history of the city and has basic social knowledge. | | The student is familiar with the history of the city and has some social knowledge. | | The student does not know the history of the city and has no social knowledge. |
| Achievement 3 | The student understands well the problems of urban planning from the viewpoint of the city's living environment. | | The student understands the problems of urban planning from the viewpoint of the city's living environment. | | The student does not understand urban planning problems from the viewpoint of the city's living environment. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | What is the city? How and why cities took the shape they did? How and When did cities begin? The accumulative result of space formation activities in different ages created the urban environment that surrounds us. In this lecture, we will look at the history of the city from ancient times to the present. We will discuss what types of urban space existed, how those urban spaces transformed over time, and the logic that originated them. | | | | |
| Style | Lectures and students presentations | | | | |
| Notice | This course includes equivalent to 90 hours of self-study time required for the preparation of presentations and assignments. The students are required to critically analyze their living environment and perceive the influence of the historical background on the city form. Up to 1/4 Absence are excused. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input checked="" type="checkbox"/> Active Learning | | <input checked="" type="checkbox"/> Aided by ICT | | <input checked="" type="checkbox"/> Applicable to Remote Class <input type="checkbox"/> Instructor Professionally Experienced | |
| | | | | | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | introduction about Research on urban history and its issues | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 2nd | Ancient cities, urban facilities, and dwellings. Walled cities and castle cities | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 3rd | The grid: Hippodamian and Baroque cities | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 4th | Ideal cities: Social reform and modern cities | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 5th | Urban planning laws and the modern city | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 6th | Organic Patterns The City interpreted as an organism | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 7th | Organic Patterns Topography, landscape and organic design, medieval european cities | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | | 8th | The Grid Classical City planning and the universality of the Grid | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |
| | 4th Quarter | 9th | The City as a Diagram : Utopia and City planning. Assignment: Read about the perfect society Utopia idea and think about its relation with the creation of the urban space. Suggested Readings see 自己学習 | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. | |

| | | | | |
|--|--|------|---|---|
| | | 10th | Discussion : What is Utopia? After a brief description of the story of the suggested readings the students will discuss about the perfect society and the idea of a perfect urban environment | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. |
| | | 11th | The Grand Manner Origins of Baroque style city planning Baroque City planning elements | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. |
| | | 12th | History of Japanese Urbanization Brief review on the History of Japanese Urbanization process. Division and Organization of the field work groups (working together with short term foreign students) | Understand the process of urban formation. To know the history of the city and acquire basic social knowledge. |
| | | 13th | Field work: analysis of the urban space of Uozumi, Akashi and Maiko Each group will perform a field work and examine the characteristic of the urban space of a determined area of the city | To Understand urban planning problems from the viewpoint of the urban living environment. |
| | | 14th | Field Work analysis presentation Each group will do a slide presentation of their field work analyses | To Understand urban planning problems from the viewpoint of the urban living environment. |
| | | 15th | Discussion: What is the city? How and why cities took the shape they did? Discussion between the students about what they learned and their impressions on the development of cities, focusing on Japanese cities. | To Understand urban planning problems from the viewpoint of the urban living environment. |
| | | 16th | No End term Exams | |

Evaluation Method and Weight (%)

| | Presentation | Assignments | Total |
|-------------------------|--------------|-------------|-------|
| Subtotal | 40 | 60 | 100 |
| Basic Proficiency | 0 | 0 | 0 |
| Specialized Proficiency | 40 | 60 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 |

| | | | | | | | |
|--|-------------|--|---|---|--|---|--|
| Akashi College | | Year | 2021 | | Course Title | Practice of Regional Planning I | |
| Course Information | | | | | | | |
| Course Code | | 0025 | | Course Category | | Specialized / Elective | |
| Class Format | | Seminar | | Credits | | School Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 1st | |
| Term | | Second Semester | | Classes per Week | | 4 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | OTSUKA Takehiko | | | | | |
| Course Objectives | | | | | | | |
| 1) Understand the intention behind the competition's set tasks, and accurately understand its background and purpose, etc. 2) Can come up with multiple ideas, review them, and be able to finally put them together in one idea. 3) Can complete the requested details by the due date, and communicate about the submission to people in an easy-to-understand manner. | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Accurately understand the intention behind the competition's set task. | | Roughly understand the intention behind the competition's set task. | | Do not understand the intention behind the competition's set task. | |
| Achievement 2 | | Can come up with multiple ideas, review them, and finally put them together in one idea. | | Can come up with one idea and summarize it. | | Cannot come up with any ideas, nor come up with and review multiple ones and finally put them together in one idea. | |
| Achievement 3 | | Can accurately communicate the contents of the submission to people. | | Can communicate the contents of the submission to people. | | Cannot communicate the contents of the submission to people. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (E) 学習・教育目標 (F) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | The aim of this course is to make use of what students have learned in the specialized subjects and to work on the task for the KOSEN Design Competition . | | | | | |
| Style | | All students taking the course will read the task details, and then create proposals individually or in groups. The teacher in charge will provide instructions during each week's classes. | | | | | |
| Notice | | This course's credit requirement is to work on the task for the KOSEN Design Competition and submit the results in the end. Students who miss 1/5 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
| | | | | | | | |
| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 2nd Semester r | 3rd Quarter | 1st | Orientation Task description and making groups | | Understand the course content. | | |
| | | 2nd | Task analysis | | Can analyze the task and properly understand the its intent. | | |
| | | 3rd | Gathering materials related to the task | | Can gather the relevant materials. | | |
| | | 4th | Gathering materials related to the task | | Can gather the relevant materials. | | |
| | | 5th | Approach decisions | | Can decide an approach for the task. | | |
| | | 6th | Concepts and idea creation | | Can create concepts and ideas. | | |
| | | 7th | Concepts and idea creation | | Can create concepts and ideas. | | |
| | | 8th | Interim presentation: Present ideas | | Can communicate one's own thoughts to people in an easy-to-understand manner and can properly answer questions, etc. | | |
| | 4th Quarter | 9th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 10th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 11th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 12th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 13th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 14th | Review sessions | | Can communicate one's own thoughts to people in an easy-to-understand manner and can properly answer questions, etc. | | |
| | | 15th | Brushing up | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 16th | No final exam | | | | |
| Evaluation Method and Weight (%) | | | | | | | |

| | Final deliverables | Presentation | Report | Total |
|-------------------------|--------------------|--------------|--------|-------|
| Subtotal | 80 | 10 | 10 | 100 |
| Basic Proficiency | 10 | 0 | 5 | 15 |
| Specialized Proficiency | 40 | 0 | 5 | 45 |
| Cross Area Proficiency | 30 | 10 | 0 | 40 |

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|--|---|---------------------------------------|--|---|---|
| Akashi College | | Year | 2021 | Course Title | Applied Structural Engineering in Architecture |
| Course Information | | | | | |
| Course Code | 0026 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 1st | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | NAKAGAWA Hajime | | | | |
| Course Objectives | | | | | |
| (1) Fully understand the damage caused by past historical earthquakes and disaster prevention measures. (Learning and education objective [H]) (2) Fully understand the basics of seismic engineering. (Learning and education objective [D]) (2) Can give one's opinions and ideas through group learning on issues related to natural disasters. (Learning and education objectives [F and H]) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Fully understand the basics of earthquake and disaster prevention engineering. | | Understand the basics of earthquake and disaster prevention engineering. | | Do not fully understand the basics of earthquake and disaster prevention engineering. |
| Achievement 2 | Fully understand the basics of seismic engineering. | | Understand the basics of seismic engineering. | | Do not fully understand the basics of seismic engineering. |
| Achievement 3 | Can work hard on assignments through group work. | | Can work on assignments through group work. | | Cannot work on assignments through group work. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | Japan is one of the countries where many natural disasters occur. This course will focus on safe and secure buildings and civil engineering structures, and will provide classes from the perspectives of seismic engineering and disaster prevention engineering. It will teach the basics of seismic engineering and disaster prevention engineering in a lecture and exercise style by a teacher who was responsible for the structural design and vibration analysis of buildings at a company, using their experience. | | | | |
| Style | The first nine weeks of classes will be mainly in a lecture style. In the next four weeks of classes, students will be working on exercises on disaster prevention measures for civil engineering and building structures using group work. In the final two weeks, students will introduce their research and discuss it freely. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students must have fully learned the subjects involved in structural mechanics and structural design (RC and S constructions). They must also have carefully read the handouts distributed in advance and made every effort to understand the content. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | Class plans and guidance | Understand what to study in this course. | |
| | | 2nd | Look back on the situation at the time of the Great Hanshin Earthquake and the Great East Japan Earthquake as examples, and lecture on future disaster prevention measures. | Understand future disaster prevention measures in each field by learning about the two major earthquakes of the Heisei era. | |
| | | 3rd | A lecture and practical skill training on basic life support (cardiopulmonary resuscitation and how to use an AED) Explain, demonstrate, and develop a deep understanding of cardiopulmonary resuscitation and how to use an AED, which are both aids in the event of a disaster or traffic accident. | Understand the need for basic life support and can perform cardiopulmonary resuscitation and use an AED. | |
| | | 4th | Recent earthquake events in Japan and overseas (1) Explain the mechanism of earthquakes, earthquake ground motion classification, and its characteristics, and use the Great Hanshin Earthquake as a subject to lecture on human and building damage and disaster prevention activities. | Fully understand the mechanism of earthquakes and earthquake ground motion characteristics. In addition, understand the human and structural damage caused by the Great Hanshin Earthquake. | |
| | | 5th | Recent earthquake events in Japan and overseas (2) Explain the earthquakes that have occurred within the last 20 years, and lecture on future disaster prevention measures. | Fully understand the distinctive earthquake ground motions that have occurred within the last 20 years. | |

| | | | | |
|--|-------------|------|---|--|
| | | 6th | Recent earthquake events in Japan and overseas (3) Explain the earthquakes that have occurred within the last 20 years, and lecture on future disaster prevention measures. | Fully understand the distinctive earthquake ground motions that have occurred within the last 20 years. |
| | | 7th | Exercise Conduct exercises on the content learned in weeks 2 to 6. | Fully understand through exercises the content learned in weeks 2 to 6. |
| | | 8th | Seismic engineering (1) Lecture on the basics of architectural vibrational science. | Understand the overview of natural period and equations of motion for one- and multi-particle systems, and can find natural periods. |
| | 4th Quarter | 9th | Seismic engineering (2) Lecture on the differences in seismic resistance, isolation, and control structures. | Can explain the concepts of and differences in seismic resistance, isolation, and control structures. |
| | | 10th | Pre- and post-disaster preventions against natural disasters (1) Carry out group work in accordance with the given theme, and consider pre- and post-disaster prevention measures. | Can generate ideas from each area of expertise for pre- and post-disaster preventions. |
| | | 11th | Pre- and post-disaster preventions against natural disasters (2) Carry out group work in accordance with the given theme, and consider pre- and post-disaster prevention measures. | Can generate ideas from each area of expertise for pre- and post-disaster preventions. |
| | | 12th | Pre- and post-disaster preventions against natural disasters (3) Carry out group work in accordance with the given theme, and consider pre- and post-disaster prevention measures. | Can generate ideas from each area of expertise for pre- and post-disaster preventions. |
| | | 13th | Pre- and post-disaster preventions against natural disasters (4) Assignment presentations and discussions | Present and discuss the assignments conducted by each group. |
| | | 14th | Student research introductions (1) Introduce the research that students are doing. | Can freely discuss the presentations among teachers and students. Learn about other students' research regardless of whether they are from the Architecture or Civil Engineering department, and be able to apply it to one's own research. |
| | | 15th | Student research introductions (2) Introduce the research that students are doing. | Can freely discuss the presentation. Learn about other students' research regardless of whether they are from the Architecture or Civil Engineering department, and be able to apply it to one's own research. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Status | Behavior | Portfolio | Other | Total |
|-------------------------|-------------|--------------|--------|----------|-----------|-------|-------|
| Subtotal | 50 | 35 | 15 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 50 | 35 | 15 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|--|-------------|--|--|--|--|--|--|
| Akashi College | | Year | 2021 | | Course Title | Japanese Language and Communication | |
| Course Information | | | | | | | |
| Course Code | | 0029 | | Course Category | | General / Elective | |
| Class Format | | Lecture | | Credits | | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 2nd | |
| Term | | First Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | 石黒圭『よくわかる文章表現の技術【新版】Ⅰ、Ⅱ』（明治書院）、適宜日本語に関する資料を配布する。 | | | | | |
| Instructor | | KURODA Hidenori | | | | | |
| Course Objectives | | | | | | | |
| (1)日本語の文章表現の特徴と文法・語彙の歴史を学ぶと共に、幅広い知識と教養を身に付け、自らを取り巻く日本語環境を敏感に観察する感性を養うこと (2)日本語の文章を批判的に検討し、それについて意見を述べることで論理的な思考力と表現力を養い、自らの文章表現力を向上させること (3)文章表現における様々な規則や文法事項を正確に理解し、実践的な文章表現力を養うこと | | | | | | | |
| (1)が主に学習・教育目標(E)に、(2)(3)が主に学習・教育目標(A)に関係する。 | | | | | | | |
| Rubric | | | | | | | |
| | | 理想的な到達レベルの目安 | | 標準的な到達レベルの目安 | | 未到達レベルの目安 | |
| 評価項目1 | | 日本語の表現の特徴と文法・語彙の歴史を十分に理解しており、自らを取り巻く日本語環境を知的関心を持って観察することができる | | 日本語の表現の特徴と文法・語彙の歴史をおおむね理解し、自らを取り巻く日本語環境を観察することができる | | 日本語の表現の特徴と文法・語彙の歴史への理解が不十分であり、自らを取り巻く日本語環境に対して関心が薄い | |
| 評価項目2 | | 明快で論理的な思考力と表現力を身に付け、自分の思いを十分に文章として表現することができる | | 論理的な思考力と表現力を身に付け、自分の思いを文章として表現することができる | | 論理的な思考力と表現力が未熟であり、自分の思いを文章として表現することができない | |
| 評価項目3 | | 文章表現における様々な規則や文法事項を正確に理解し、状況にふさわしい実践的な文章表現を行うことができる | | 文章表現における様々な規則や文法事項をある程度理解し、実践的な文章表現を行うことができる | | 文章表現における様々な規則や文法事項の理解が不十分であり、実践的な文章表現を行うことができない | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標(A) 学習・教育目標(E) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | 現代社会で用いられているさまざまな文章表現や文書の形式について、テキストの文例を批判し課題を検討することにより、自らを取り巻く日本語表現に敏感になること、そして、日本語に関する基礎的な事項の確認と豊かで正しい日本語表現能力の養成を目指す。また、論理的で分かりやすい文章を書くための実践を豊富に行い、より充実した研究論文執筆を目指す。 | | | | | |
| Style | | 毎回担当者によるテキストの課題の発表とそれにもとづく講師及び出席者との質疑応答を行う。また、ほぼ毎回レポート課題を課す。 連絡員：黒田秀教 | | | | | |
| Notice | | 本科目は、授業で保証する学習時間と、予習・復習及び課題レポート作成に必要な標準的な自己学習時間の総計が、90時間に相当する学習内容である。履修者全員にテキストの課題の発表を課す。発表時には講師及び出席者との質疑応答を行う。また、ほぼ毎回レポート課題を課す。 合格の対象としない欠席条件(割合) 1/3以上の欠課 | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input checked="" type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 1st Semester | 1st Quarter | 1st | 授業の概要・「訓点の打ち方」(石黒圭『よくわかる文章表現の技術【新版】Ⅰ』) | | 本講義の目的と授業の進行について理解する。また、「訓点の打ち方」のテーマを理解することができる | | |
| | | 2nd | 語順の文法【語順の文法】(石黒圭『よくわかる文章表現の技術【新版】Ⅰ』) 課題についての受講者の発表と質疑応答 | | 「語順の文法」のテーマを理解し、必要な技術(アピールポイントの選定、適切な表現など)を中心としたレジメを作成し、プレゼンテーションすることができる | | |
| | | 3rd | 話し言葉と書き言葉(石黒圭『よくわかる文章表現の技術【新版】Ⅰ』) 課題についての受講者の発表と質疑応答 | | 「話し言葉と書き言葉」のテーマを理解し、必要な技術(アピールポイントの選定、適切な表現など)を中心としたレジメを作成し、プレゼンテーションすることができる | | |
| | | 4th | 弱い判断の功罪(石黒圭『よくわかる文章表現の技術【新版】Ⅰ』) 課題についての受講者の発表と質疑応答 | | 「弱い判断の功罪」のテーマを理解し、必要な技術(アピールポイントの選定、適切な表現など)を中心としたレジメを作成し、プレゼンテーションすることができる | | |
| | | 5th | 事実と意見の書き分け(石黒圭『よくわかる文章表現の技術【新版】Ⅰ』) 課題についての受講者の発表と質疑応答 | | 「事実と意見の書き分け」のテーマを理解し、必要な技術(アピールポイントの選定、適切な表現など)を中心としたレジメを作成し、プレゼンテーションすることができる | | |
| | | 6th | 接続詞の使い方(石黒圭『よくわかる文章表現の技術【新版】Ⅰ』) 課題についての受講者の発表と質疑応答 | | 「接続詞の使い方」のテーマを理解し、必要な技術(アピールポイントの選定、適切な表現など)を中心としたレジメを作成し、プレゼンテーションすることができる | | |
| | | 7th | 論説文1 課題についての受講者の発表と質疑応答 | | 論説文の構造について理解することができる。 必要な技術(アピールポイントの選定、適切な表現など)を中心としたレジメを作成し、プレゼンテーションすることができる | | |

| | | | | |
|--|----------------|------|--|--|
| | | 8th | 論説文2 課題についての受講者の発表と質疑応答 | 論説文の構造について理解することができる。 必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | 2nd Quarter | 9th | 冒頭と結末の呼応（石黒圭『よくわかる文章表現の技術【新版】Ⅱ』） 課題についての受講者の発表と質疑応答 | 「冒頭と結末の呼応」のテーマを理解し、必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 10th | 読者への配慮（石黒圭『よくわかる文章表現の技術【新版】Ⅱ』） 課題についての受講者の発表と質疑応答 | 「読者への配慮」のテーマを理解し、必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 11th | 手際のよい説明（石黒圭『よくわかる文章表現の技術【新版】Ⅱ』） 課題についての受講者の発表と質疑応答 | 「手際のよい説明」のテーマを理解し、必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 12th | 問題提起文の力（石黒圭『よくわかる文章表現の技術【新版】Ⅱ』） 課題についての受講者の発表と質疑応答 | 「問題的文の力」のテーマを理解し、必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 13th | 譲歩による説得（石黒圭『よくわかる文章表現の技術【新版】Ⅱ』） 課題についての受講者の発表と質疑応答 | 「譲歩による説得」のテーマを理解し、必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 14th | 要約の方法（石黒圭『よくわかる文章表現の技術【新版】Ⅱ』） 課題についての受講者の発表と質疑応答 | 「要約の方法」のテーマを理解し、必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 15th | 手紙の書き方 課題についての受講者の発表と質疑応答 | 手紙の書き方を理解することができる。必要な技術（アピールポイントの選定、適切な表現など）を中心としたレジメを作成し、プレゼンテーションすることができる |
| | | 16th | 期末試験 | |

Evaluation Method and Weight (%)

| | 試験 | 発表 | 相互評価 | 態度 | ポートフォリオ | その他 | Total |
|----------|----|----|------|----|---------|-----|-------|
| Subtotal | 50 | 50 | 0 | 0 | 0 | 0 | 100 |
| 基礎的能力 | 50 | 50 | 0 | 0 | 0 | 0 | 100 |
| 専門的能力 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 分野横断的能力 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | |
|--|--|---------------------------------------|--|--|--|
| Akashi College | | Year | 2021 | Course Title | Cross-Cultural Understanding |
| Course Information | | | | | |
| Course Code | 0030 | | Course Category | General / Elective | |
| Class Format | Seminar | | Credits | School Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | Year-round | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | Exploring Landscapes of Culture & Communication (Shohakusha), Power-Up Practice for the TOEIC Listening and Reading Test (Eihosha) | | | | |
| Instructor | MATSUDA Yasutaka,HERBERT John C. | | | | |
| Course Objectives | | | | | |
| (1) 英語の読解力および表現力の向上(学習教育目標E) (2) 異文化への理解を深める(学習教育目標B) (3) 知識を広げ、深く思考する習慣を身につける(学習教育目標A) 課題(e-learningを含む)を確実にを行い、期限までに完成させること。 授業では、積極的に発言および討論する姿勢が要求される。 理由なく授業を欠席および遅刻して課題や発表ができない場合は再評価を認めない。 | | | | | |
| Rubric | | | | | |
| | 理想的な到達レベルの目安 | | 標準的な到達レベルの目安 | | 未到達レベルの目安 |
| 評価項目1 | 英語の内容を読み取り、英文を書く練習を通して英文読解力や作文力をつけるとともに必要な語彙力を十分に上げることができる。 | | 英語の内容を読み取り、英文を書く練習を通して英文読解力や作文力をつけるとともに必要な語彙力を上げることができる。 | | 英語の内容を読み取り、英文を書く練習を通して英文読解力や作文力をつけるとともに必要な語彙力を上げることができない。 |
| 評価項目2 | 異文化について十分な知識を身につけ理解を十分に深めることができる。 | | 異文化について知識を身につけ理解を深めることができる。 | | 異文化について知識を身につけ理解を深めることができない。 |
| 評価項目3 | 異文化についての知識をもとに、文化の違いについて自分の意見をうまく表現することができる。 | | 異文化についての知識をもとに、文化の違いについて自分の意見を表現することができる。 | | 異文化についての知識をもとに、文化の違いについて自分の意見を表現することができない。 |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (B) 学習・教育目標 (E) | | | | | |
| Teaching Method | | | | | |
| Outline | グローバル化の時代の技術者にとって、英語を実践的に使いこなす能力は不可欠である。また、異文化間コミュニケーションをよりスムーズに行うためには、英語の運用能力だけでなく、様々な文化の規範や価値観を知り、それらを理解する姿勢が要求される。授業では、今日の多言語・多文化主義を踏まえた異文化間コミュニケーションについて理解を深めながら、英語の運用能力を高めることを目的とする。また、リーダーシップについて、どのように身につけ、発揮するかについても学ぶ。適宜、実際の異文化交流を行う。 | | | | |
| Style | 英文を読んで、その内容の理解を確認する演習問題を解く。読解した内容について、英語で考えを発表する。CDを用いてリスニング力をつける。既習事項を参考に英作文の練習をする。適宜、課題を課す。 | | | | |
| Notice | 課題(e-learningを含む)を確実にを行い、期限までに完成すること。授業では、積極的に発言および討論する姿勢が要求される。 合格の対象としない欠席条件(割合) 1/4以上の欠課 | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input checked="" type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Essentialism (1) Finding a Job (1) 授業の概要説明、The Essentialist View of Culture | 本質主義について学び、文化および文化間の相互関係について理解を深める。 | |
| | | 2nd | Essentialism (2) Finding a Job (2) Characteristics of Japanese People | 日本人の特徴について理解を深める。 | |
| | | 3rd | Non-essentialism (1) Dining Out (1) The Non-essentialist View of Culture | 非本質主義の概要を学ぶ。 | |
| | | 4th | Non-essentialism (2) Dining Out (2) The Cultures in One | 共存する二つの文化について理解を深める。 | |
| | | 5th | Socialization (1) Business Meeting (1) When do we acquire culture? | 「社会化」について理解を深める。 | |
| | | 6th | Socialization (2) Business Meeting (2) Different Ways of Greeting People | 人間の成長過程での社会化について理解を深める。 | |
| | | 7th | Cultural Identity (1) Travel (1-1) What are the main sources of your identity? | 人や社会は複雑な存在である」という非本質主義の見方を理解する。 | |
| | | 8th | Cultural Identity (2) Travel (1-2) Small Cultures | スモールカルチャーについて理解を深める。学ぶ。 | |
| | 2nd Quarter | 9th | Cultural Hybridity (1) Entertainment (1-1) Social Change | 文化の混交を理解する。 | |
| | | 10th | Cultural Hybridity (2) Entertainment (1-2) What kind of seasonal events do you celebrate? | ハローウィーンについて学習する。 | |
| | | 11th | Stereotypes (1) The Office (1) Why do we stereotype? | 固定観念及びその種類について学ぶ。 | |
| | | 12th | Stereotypes (2) The Office (2) The Nature of Stereotyping | ステレオタイプを持つことの本質について学ぶ。 | |

| | | | | |
|--------------|-------------|------|---|-------------------------------------|
| | | 13th | Representation (1) Shopping (1) Culture is a set of beliefs and practices shared in a group. | 文化表象について学ぶ。 |
| | | 14th | Representation (2) Shopping (2) Representation in the Media | メディア表象について学ぶ。 |
| | | 15th | まとめ Review and Further Practice (1) 前期のまとめ | 前期で学習したことを復習しまとめる。 |
| | | 16th | 期末試験 | これまでの学習で理解したことをきちんと成果として表現することができる。 |
| 2nd Semester | 3rd Quarter | 1st | Time and Culture (1) Entertainment (2-1) Analyse cultural viewpoints regarding time | 文化同士の時間認識の相違を学ぶ。 |
| | | 2nd | Time and Culture (2) Entertainment (2-2) Business time | ビジネスタイムについて学ぶ。 |
| | | 3rd | Discourse (1) Sales and Marketing (1) The word discourse has many meaning in English. | 「言説」と文化について学ぶ。 |
| | | 4th | Discourse (2) Sales and Marketing (2) History of Madness | 狂気の歴史について学ぶ。 |
| | | 5th | Collectivism and Individualism (1) Technical Areas (1) Proverbs | 「集団主義と個人主義」について学ぶ。 |
| | | 6th | Collectivism and Individualism (2) Technical Areas (2) Collectivism and Individualism in the Workplace | 職場での集団主義と個人主義について学ぶ。 |
| | | 7th | Masculine and Feminine Culture (1) Health (1) In a masculine culture success is the most important value. | 男性文化と女性文化について学ぶ。 |
| | | 8th | Masculine and Feminine Culture (2) Health (2) What roles are men and women expected to play in your society? | 主夫について学ぶ。 |
| | 4th Quarter | 9th | High-context and Low-context Culture (1) Finance (1) One example of a high-context form of art is haiku. | ハイコンテキスト文化とローコンテキスト文化について学ぶ。 |
| | | 10th | High-context and Low-context Culture (2) Finance (2) Saying No | 「ノー」と言うことについて学ぶ。 |
| | | 11th | Power-distance (1) Travel (2-1) There are cultures that prefer a strict social hierarchy and those that prefer a more flexible social structure. | 上下関係が言語や行動にどのように表れるかを学ぶ。 |
| | | 12th | Power-distance (2) Travel (2-2) An Exchange Student's Experience in Japan | ある留学生の日本での体験を学ぶ。 |
| | | 13th | Globalization and Cultural Identity (1) Corporate Development (1) Imagine what life was like before globalization. | グローバル化がもたらす文化や文化アイデンティティへの影響を学ぶ。 |
| | | 14th | Globalization and Cultural Identity (2) Corporate Development (2) Cultural Supermarket | 文化のスーパーマーケットについて学ぶ。 |
| | | 15th | まとめ Review and Further Practice (2) 後期のまとめ | 後期で学習したことを復習しまとめる。 |
| | | 16th | 期末試験 | これまでの学習で理解したことをきちんと成果として表現することができる。 |

Evaluation Method and Weight (%)

| | 試験 | 発表 | 相互評価 | 態度 | ポートフォリオ | 課題・発表 | Total |
|----------|----|----|------|----|---------|-------|-------|
| Subtotal | 60 | 0 | 0 | 0 | 0 | 40 | 100 |
| 基礎的能力 | 60 | 0 | 0 | 0 | 0 | 40 | 100 |
| 専門的能力 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 分野横断的能力 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|--|-------------|---|---|---|--|---|--|
| Akashi College | | Year | 2021 | | Course Title | Environmental Science | |
| Course Information | | | | | | | |
| Course Code | | 0041 | | Course Category | | General / Elective | |
| Class Format | | Lecture | | Credits | | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 2nd | |
| Term | | First Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | WATANABE Moriyoshi,HIRAISHI Toshihiro | | | | | |
| Course Objectives | | | | | | | |
| (1) Understand the formation of the global environment and the basic knowledge of the natural ecosystem, and acquire the ability to examine and explain the relationships between life, the natural environment, and environmental issues from a multifaceted perspective. | | | | | | | |
| (2) Examine the relationship between the environment and people, think about problems with environmental issues, and acquire the ability to identify what actions are needed as engineers and members of the general public. | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Understand the formation of the global environment and the basic knowledge of the natural ecosystem, and can examine and explain the relationships between life, the natural environment, and environmental issues from a multifaceted perspective. | | Understand the formation of the global environment and the basic knowledge of the natural ecosystem, and can explain the relationships between life, the natural environment, and environmental issues. | | Do not understand the formation of the global environment and the basic knowledge of the natural ecosystem, and cannot explain the relationships between life, the natural environment, and environmental issues. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (C) 学習・教育目標 (D) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | (1) Lectures on biological and global environments, and an outline of ecosystems, and methods for preserving them. (8 weeks taught by Watabe) (2) Lectures on environmental issues from history, material cycles, and regional disparities. (7 weeks taught by Hiraishi) | | | | | |
| Style | | Lectures will be held using slides and videos and with materials distributed as appropriate. The course is open to students from any department. Classes will be taught as simply as possible. Before taking the course, students should carefully read through the materials distributed in advance to fully understand the content, and summarize the main points and questions. | | | | | |
| Notice | | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The levels of achievement will be evaluated by faculty members in the following methods. The minimum score for a pass will be 60% in total. The weight for each faculty member's evaluation will be "1" for Hiraishi and "1" for Watabe. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
| | | | | | | | |
| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 1st Semester | 1st Quarter | 1st | The formation of the global environment and the history of pollution (Watabe) | | Can explain the process in which the current global environment was formed, and the relationship between pollution and health that has occurred in the past. | | |
| | | 2nd | Global environmental issues (Watabe) | | Can explain the current state of environmental issues and the measures to be taken on a global scale. | | |
| | | 3rd | Ecosystem basics (Watabe) | | Can explain the concept of ecosystems, and about individuals and populations. | | |
| | | 4th | Ecosystem structures, energy flow, and material cycles (Watabe) | | Can explain ecosystem structures, energy flow, and material cycles. | | |
| | | 5th | Various ecosystems (Watabe) | | Can explain the functions, roles and present states of forest, urban, and agricultural ecosystems. | | |
| | | 6th | Ecosystem conservation techniques (Watabe) | | Can explain technical classification (conservation, restoration, and creation) to protect the environment including ecosystems using concrete examples. | | |
| | | 7th | Summary | | Test the level of comprehension for the content from weeks 1 to 7. | | |
| | | 8th | Biodiversity and the biodiversity crisis (Watabe) | | Give an explanation of the exam. Can explain the current state and crisis of biodiversity. | | |
| | 2nd Quarter | 9th | Report assignment briefing Environmental issues and history | | Set up and implement solutions to environmental issues in one's life. Learn about the causes and history of modern environmental issues. | | |

| | | | | |
|--|--|------|---|---|
| | | 10th | Life and society in the Edo period | Learn about life and society before today's environmental issues arose. |
| | | 11th | Watch the "An Inconvenient Truth" and think about it. | Learn about climate change issues. |
| | | 12th | Watch the "An Inconvenient Truth" and think about it. | Learn about climate change issues and recognize the challenges. |
| | | 13th | "Ancient Futures: Learning from Ladakh" | Think about the time gap in the problems due to geographic inequalities. |
| | | 14th | "Ancient Futures: Learning from Ladakh" | Think about the time gap in the problems due to geographic inequalities. |
| | | 15th | Return and amend report assignments | Add opinions to the faculty's comments sent via Teams about the assignment in week 9. |
| | | 16th | About SDGs | Understand SDGs. |

Evaluation Method and Weight (%)

| | Examination(Watanabe) | Exercise(Watanabe) | Report(Hiraishi) | Behavior | Portfolio | Other | Total |
|-------------------------|-----------------------|--------------------|------------------|----------|-----------|-------|-------|
| Subtotal | 30 | 20 | 50 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 30 | 20 | 50 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | |
|--|---|---------------------------------------|--|---|--|--|
| Akashi College | | Year | 2021 | | Course Title | Research Studies |
| Course Information | | | | | | |
| Course Code | 0029 | | | Course Category | Specialized / Compulsory | |
| Class Format | Seminar | | | Credits | School Credit: 8 | |
| Department | Architecture and Civil Engineering | | | Student Grade | Adv. 2nd | |
| Term | Year-round | | | Classes per Week | 8 | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | | | | | | |
| Course Objectives | | | | | | |
| (1) Can integrate and deepen expertise, and examine it theoretically, systematically, practically, and creatively from a wide perspective toward solving problems. (2) Can engage in learning and research independently and continuously. (3) Can write technical documents in English by creating an English abstract of the annual research report. (4) Can improve presentation skills by giving one at the research review presentation. | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | Can integrate and deepen expertise, and examine and apply it theoretically, systematically, practically, and creatively from a wide perspective toward solving problems. | | Can integrate and deepen expertise, and examine it theoretically, systematically, practically, and creatively from a wide perspective toward solving problems. | | Cannot integrate and deepen expertise, and examine it theoretically, systematically, practically, and creatively from a wide perspective toward solving problems.. | |
| Achievement 2 | Can actively engage in learning and research independently and continuously. | | Can engage in learning and research independently and continuously. | | Cannot engage in learning and research independently and continuously. | |
| Achievement 3 | Can write technical documents in English and papers for international conferences by creating an English abstract of the annual research report. | | Can write technical documents in English by creating an English abstract of the annual research report. | | Cannot write technical documents in English by creating an English abstract of the annual research report. | |
| | Can improve and apply presentation skills by giving one at the review presentation. | | Can improve presentation skills by giving one at the review presentation. | | Cannot improve presentation skills by giving one at the review presentation. | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (E) 学習・教育目標 (G) | | | | | | |
| Teaching Method | | | | | | |
| Outline | The aim of this course is to develop practical skills for problem solving by integrating engineering knowledge that the students have learned so far and applying it to individual research assignments of their own choice. They will also learn practical techniques for engineering research. Research subjects, unlike exercise questions, do not have answers from the beginning. Learn the fun of studying unknown areas while repeating the trial and error. | | | | | |
| Style | Students will be assigned to each laboratory and receive research guidance from the supervisors. | | | | | |
| Notice | This course's content will amount to 360 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students should proceed with research voluntarily and proactively based on their knowledge they have gained from previous study. Specifically, each research process should be carried out voluntarily and based on self-judgment, as much as possible, to explore the issues given and think about approach methods until they arrive at an answer. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester | 1st Quarter | 1st | Individual research | Carry out separately under each supervisor's instruction. | | |
| | | 2nd | Same as above | Same as above | | |
| | | 3rd | Same as above | Same as above | | |
| | | 4th | Same as above | Same as above | | |
| | | 5th | Same as above | Same as above | | |
| | | 6th | Same as above | Same as above | | |
| | | 7th | Same as above | Same as above | | |
| | | 8th | Same as above | Same as above | | |
| | 2nd Quarter | 9th | Same as above | Same as above | | |
| | | 10th | Same as above | Same as above | | |
| | | 11th | Same as above | Same as above | | |
| | | 12th | Same as above | Same as above | | |
| | | 13th | Same as above | Same as above | | |
| | | 14th | Same as above | Same as above | | |
| | | 15th | Same as above | Same as above | | |

| | | | | |
|--------------|-------------|------|---------------------|---|
| | | 16th | No final exam | |
| 2nd Semester | 3rd Quarter | 1st | Same as above | Same as above |
| | | 2nd | Same as above | Same as above |
| | | 3rd | Same as above | Same as above |
| | | 4th | Same as above | Same as above |
| | | 5th | Same as above | Same as above |
| | | 6th | Same as above | Same as above |
| | | 7th | Same as above | Same as above |
| | | 8th | Same as above | Same as above |
| | 4th Quarter | 9th | Same as above | Same as above |
| | | 10th | Same as above | Same as above |
| | | 11th | Same as above | Same as above |
| | | 12th | Same as above | Same as above |
| | | 13th | Same as above | Same as above |
| | | 14th | Same as above | Same as above |
| | | 15th | Review presentation | Can present one's research results and answer questions, etc. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Research paper | Research activities | Annual research report | Research publication | Total |
|-------------------------|----------------|---------------------|------------------------|----------------------|-------|
| Subtotal | 40 | 20 | 20 | 20 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 40 | 20 | 20 | 20 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 |

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|---|--|------|---|------------------------|--|
| Akashi College | | Year | 2021 | Course Title | Advanced Structural System II |
| Course Information | | | | | |
| Course Code | 0030 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | Printed synopses of the lecture are distributed as necessary in a class. Sakimoto T. : Structural mechanics (2nd Ed) (Volume 2), Morikita Publishing Co., Ltd. (as a reference) Aoki R. and Nagashima T. : Fundamental skills of finite element method that design engineers should know, Ohmsha, Ltd. (as a reference) | | | | |
| Instructor | MIYOSHI Takao | | | | |
| Course Objectives | | | | | |
| This subject aims to help students understand, explain or calculate as follows: 1. Necessity of structural analysis in design, construction and maintenance of structures (D) 2. Outline and characteristics of several numerical methods used in structural analysis (D) 3. Several stiffness equations used in structural analysis based on matrix method (D) 4. Calculation of displacement and nodal force of simple 2D frame structure using structural analysis based on matrix method (F) 5. Practical considerations of element division, boundary condition, load condition etc in structural analysis based on matrix method (D) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | A student who can sufficiently understand and explain necessity of structural analysis in design, construction and maintenance of structures | | A student who can understand and explain necessity of structural analysis in design, construction and maintenance of structures | | A student who cannot understand and explain necessity of structural analysis in design, construction and maintenance of structures |
| Achievement 2 | A student who can sufficiently understand and explain outline and characteristics of several numerical methods used in structural analysis | | A student who can understand and explain outline and characteristics of several numerical methods used in structural analysis | | A student who cannot understand and explain outline and characteristics of several numerical methods used in structural analysis |
| Achievement 3 | A student who can sufficiently understand and explain several stiffness equations used in structural analysis based on matrix method | | A student who can understand and explain several stiffness equations used in structural analysis based on matrix method | | A student who cannot understand and explain several stiffness equations used in structural analysis based on matrix method |
| Achievement 4 | A student who can calculate displacement and nodal force of simple 2D frame structure using structural analysis based on matrix method without referring calculation examples | | A student who can calculate displacement and nodal force of simple 2D frame structure using structural analysis based on matrix method with referring calculation examples | | A student who cannot calculate displacement and nodal force of simple 2D frame structure using structural analysis based on matrix method with referring calculation examples |
| Achievement 5 | A student who can sufficiently understand and explain practical considerations of element division, boundary condition, load condition etc in structural analysis based on matrix method | | A student who can understand and explain practical considerations of element division, boundary condition, load condition etc in structural analysis based on matrix method | | A student who cannot understand and explain practical considerations of element division, boundary condition, load condition etc in structural analysis based on matrix method |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | There is no doubt that structural analysis technologies based on numerical methods such as finite element method have played significant role of technological development to contribute to increasing in size, rationalization, life prolongation etc of structures in civil engineering. Nowadays, the structural analysis technologies are indispensable for design, construction and maintenance of structures in civil engineering. Also, structural analysis technologies are evolving. Lots of commercial software for structural analysis have already been developed. Almost of them are created by considering user friendliness and it is easy for people without any fundamental knowledge of structural mechanics etc to use them. However, lots of commercial software for structural analysis have a risk that incorrect computation results due to inappropriate input data would be employed in the design and maintenance. Although structural analysis based on matrix method have been deleted from many textbooks of structural mechanics, many civil engineers of design consultants, bridge fabricators, structural design companies etc committing design of infrastructures requires strongly for education on it. In this subject, a teacher, who has an experience as an engineer of bridge fabricator and has engaged in design of steel bridges and steel structures, will conduct lecture-style class on structural analysis based on matrix method, which is the most commonly used numerical method in design of infrastructures. Based on his experiences, he will explain fundamental theory, calculation procedure and practical consideration of 2D structural analysis based on matrix method using spring element, truss element and beam element. Consequently, students are expected to be able to learn skills so that they can verify the results of structural analysis as a civil engineer. | | | | |
| Style | This subject will be conducted lecture-style class and the stiffness equation of several elements, assembly of the global stiffness equation etc will be explained by writing its derivation process on the blackboard. Examples of simple framed structures using the matrix method will be specifically explained to show calculation process of the deformation etc and to deepen student's understanding on significance of stiffness equation, importance of load and boundary conditions. Also, the results of calculation will be compared with the results gained from other structural analysis method. Furthermore, as a task, it is necessary for students to calculate the deformation and reaction force of a simple 2D frame structure using some stiffness equations and submit the calculation results as a report so that they can become understanding more practically. | | | | |

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| Notice | <p>This subject has a content the summation of learning time guaranteed in class and standard self-learning time including required time for conducting preparation, review, and assignment corresponds 90 hours. This class will be proceeded on the premise that students have fundamental knowledge of structural (or material) mechanics, which has been already learned at each department. It is preferable that students can use Microsoft Excel because a computer program by using Visual Basic will be employed in structural analysis of a simple 2D framed structure.</p> <p>If the number of absences exceeds more than 33% of total school hours, pass is not accepted.</p> |
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Characteristics of Class / Division in Learning

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| <input type="checkbox"/> Active Learning | <input checked="" type="checkbox"/> Aided by ICT | <input checked="" type="checkbox"/> Applicable to Remote Class | <input checked="" type="checkbox"/> Instructor Professionally Experienced |
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Course Plan

| | | | Theme | Goals |
|--------------|-------------|------|---|--|
| 1st Semester | 1st Quarter | 1st | Structures and numerical analysis (1) Necessity of numerical analysis such as matrix method, finite element method etc in plan, design, construction and maintenance of structures will be explained. | Students can understand necessity of numerical analysis such as matrix method, finite element method etc in plan, design, construction and maintenance of structures. |
| | | 2nd | Structures and numerical analysis (2) Outline and characteristic of several numerical analyses and proper structural analysis method for the problem of structures will be explained. | Students can understand outline and characteristic of several numerical analyses and proper structural analysis method for the problem of structures. |
| | | 3rd | Outline of finite element method Characteristics of finite element method and several finite elements will be explained. | Students can understand characteristics of finite element method and several finite elements. |
| | | 4th | Matrix method of structural analysis (1) Based on linearity and superposition theorem, stiffness equation of general structures will be derived and its process will be explained as well. | Students can understand the stiffness equation and its derivation process of general structures, based on linearity and superposition theorem. |
| | | 5th | Matrix method of structural analysis (2) Based on Hooke's law and equilibrium condition of forces, stiffness equations of 1D spring and truss elements will be derived and the processes will be explained as well. | Students can understand stiffness equations of 1D spring and truss elements and their derivation process, based on Hooke's law and equilibrium condition of forces. |
| | | 6th | Matrix method of structural analysis (3) Assembly of global stiffness equation by superimposing local stiffness equations will be explained. Also, characteristics of stiffness matrix will be explained. | Students can understand assembly of global stiffness equation by superimposing local stiffness equations. Also, students can understand characteristics of stiffness matrix. |
| | | 7th | Matrix method of structural analysis (4) Simple example of structural analysis using 1D spring element and stiffness equation derivation of 2D spring element by direct method will be explained. | Students can analyze simple 1D spring structure using matrix method of structural analysis. Also, students can understand stiffness equation derivation of 2D spring element by direct method. |
| | | 8th | 2D truss element (1) Relationship between truss and spring elements and extension of 1D truss element will be explained to derive stiffness equation of 2D truss element. Also, coordinate transformation of displacement and force and coordinate transformation matrix in 2D problem will be explained. | Students can understand relationship between truss and spring elements and extension of 1D truss element to derive stiffness equation of 2D truss element. Also, students can understand coordinate transformation of displacement and force and coordinate transformation matrix in 2D problem. |
| | 2nd Quarter | 9th | 2D truss element (2) It will be explained that stiffness equation of 2D truss element is derived by applying coordinate transformation to extended 1D truss element. | Students can understand that stiffness equation of 2D truss element is derived by applying coordinate transformation to extended 1D truss element. |
| | | 10th | 2D truss element (3) A simple structure will be analyzed by using stiffness equation of 2D truss element and the results will be compared with results gained from calculation using force method. It will be shown that both results are identical through the comparison. Also, general calculation procedure in matrix method of structural analysis will be explained. | Students can analyze a simple structure by using stiffness equation of 2D truss element and compare the results with results gained from calculation by using force method. Also, students can understand both results are identical through the comparison. Furthermore, students can understand general calculation procedure in matrix method of structural analysis. |
| | | 11th | 2D beam element (1) Strain energy and displacement function will be explained to derive stiffness equation of 2D beam element. | Students can understand strain energy and displacement function to derive stiffness equation of 2D beam element. |
| | | 12th | 2D beam element (2) It will be explained that stiffness equation of 2D beam element is derived from strain energy using Castigliano's 1st theorem. Also, it will be shown that stiffness equation of 2D beam element whose axis has arbitrary direction in 2D space is derived by extending coordinate transformation matrix and applying it to the stiffness equation. | Students can understand stiffness equation of 2D beam element is derived from strain energy using Castigliano's 1st theorem. Also, students can understand stiffness equation of 2D beam element whose axis has arbitrary direction in 2D space is derived by extending coordinate transformation matrix and applying it to the stiffness equation. |
| | | 13th | 2D beam element (3) A simple structure will be analyzed by using stiffness equation of 2D beam element in order to deepen student's understanding on procedure of structural analysis. | Students can analyze a simple structure using stiffness equation of 2D beam element and they can understand procedure of structural analysis. |

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| | | 14th | 2D beam element (4) Same simple structure analyzed by 2D beam element will be solved by force method and it will be shown that results gained from analysis using 2D beam element are identical to those gained from calculation using force method. | Students can solve same simple structure analyzed by 2D beam element by force method. Also, they can understand results gained from analysis using 2D beam element are identical to those gained from calculation using force method. |
| | | 15th | Practical considerations in matrix method of structural analysis Practical considerations such as element division, boundary and load conditions, etc of 2D frame structures in matrix method of structural analysis will be explained. | Students can understand practical considerations such as element division, boundary and load conditions, etc of 2D frame structures in matrix method of structural analysis. |
| | | 16th | Final exam | |

| Evaluation Method and Weight (%) | | | | |
|----------------------------------|-------------|------|----------|-------|
| | Examination | Task | Behavior | Total |
| Subtotal | 50 | 40 | 10 | 100 |
| Specialized Proficiency | 50 | 40 | 10 | 100 |

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|---|-------------|--|---|---|---|--|--|
| Akashi College | | Year | 2021 | | Course Title | Engineering Presentation II | |
| Course Information | | | | | | | |
| Course Code | | 0031 | | Course Category | | Specialized / Compulsory | |
| Class Format | | Seminar | | Credits | | School Credit: 1 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 2nd | |
| Term | | Second Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | HIRAISHI Toshihiro,ONISHI Shosaku | | | | | |
| Course Objectives | | | | | | | |
| (1) Acquire knowledge in a wide range of engineering-related fields through presentations of one's Research Studies presented in a way that students from different specialties can understand (H). | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Can present one's own Research Studies in a way that students from different specialties can fully understand and actively discuss it with them. | | Can present one's own Research Studies in a way that students from different specialties can understand and discuss it with them. | | Cannot present one's own Research Studies in a way that students from different specialties can understand and discuss it with them. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (B) 学習・教育目標 (C) 学習・教育目標 (E) 学習・教育目標 (H) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | This course will have lectures and exercises on fundamental approaches to written presentations, graphical presentations, oral presentations, etc. in order to enhance students' abilities to express technical matters. Teaching staff will offer their impressions and critiques to raise the levels of the content. | | | | | |
| Style | | In the first half, students will use slides and give presentations on introductions for their Research Studies, its purposes, and their research plans, followed by a question-and-answer session. In the latter half of the second semester, they will submit synopses of their Research Studies and give presentations using slides. | | | | | |
| Notice | | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Emphasis will be on presenting and discussing the summaries and slides that students have prepared by themselves within the determined time. Students are expected to be able to evaluate other students' presentations. Students who miss 1/5 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
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| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 2nd Semester | 3rd Quarter | 1st | Theme 3 (Introduction to the Research Studies): Creating slides (Part 1, Hiraishi) Theme 3 is to present the introduction to the Research Studies in 10 minutes so that students from different specialties can understand. After briefing on the assignment, prepare for the presentation. | | Can explain what to be careful in communicating the background, research purposes, and research methods of one's own Research Studies to students from different specialties. | | |
| | | 2nd | Theme 3 (Introduction to the Research Studies): Creating slides (Part 2, Hiraishi) Same as above | | Can make materials to communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. | | |
| | | 3rd | Presentation of Theme 3 (Part 1, Hiraishi and Onishi) An 8-minute presentation (a bell will ring at 7 minutes) and a 10-minute Q&A with everyone. Students will score each other's presentations. | | Can communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. Can also ask questions about the presentations. | | |
| | | 4th | Presentations (Part 2, Hiraishi and Onishi) Same as above | | Can communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. Can also ask questions about the presentations. | | |
| | | 5th | Presentations (Part 3: Hiraishi and Onishi) Same as above | | Can communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. Can also ask questions about the presentations. | | |
| | | 6th | Presentations (Part 4: Hiraishi and Onishi) Same as above | | Can communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. Can also ask questions about the presentations. | | |
| | | 7th | Presentations (Part 5: Hiraishi and Onishi) Same as above | | Can communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. Can also ask questions about the presentations. | | |
| | | 8th | Presentations (Part 6: Hiraishi and Onishi) Same as above | | Can communicate the background, purposes, and research method of one's own Research Studies to students from different specialties. Can also ask questions about the presentations. | | |

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| | 4th Quarter | 9th | Theme 4 (Special research report): Report and slides preparation (Part 1: Onishi) Prepare one's own Research Studies for the review presentation. | Can prepare slides and materials for Research Studies review presentation. |
| | | 10th | Each student should present Theme 4 within 10 minutes and join in a 5-minute discussion with everyone. | Can communicate the background, purposes, research method, experiment results, and discussion of one's own Research Studies. Can also ask questions about the presentations. |
| | | 11th | Presentations (Part 2: Onishi and Hiraishi) Same as above | Can communicate the background, purposes, research method, experiment results, and discussion of one's own Research Studies. Can also ask questions about the presentations. |
| | | 12th | Presentations (Part 3: Onishi and Hiraishi) Same as above | Can communicate the background, purposes, research method, experiment results, and discussion of one's own Research Studies. Can also ask questions about the presentations. |
| | | 13th | Presentations (Part 4: Onishi and Hiraishi) Same as above | Can communicate the background, purposes, research method, experiment results, and discussion of one's own Research Studies. Can also ask questions about the presentations. |
| | | 14th | Presentations (Part 5: Onishi and Hiraishi) Same as above | Can communicate the background, purposes, research method, experiment results, and discussion of one's own Research Studies. Can also ask questions about the presentations. |
| | | 15th | Presentations (Part 6: Onishi and Hiraishi) Same as above | Can communicate the background, purposes, research method, experiment results, and discussion of one's own Research Studies. Can also ask questions about the presentations. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Presentation | Mutual Evaluations between students | Number of questions | | | Others | Total |
|-------------------------|--------------|-------------------------------------|---------------------|---|---|--------|-------|
| Subtotal | 60 | 30 | 10 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 60 | 30 | 10 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|-------------|--|---|---|--|--|--|
| Akashi College | | Year | 2021 | | Course Title | Hydraulic Engineering I | |
| Course Information | | | | | | | |
| Course Code | | 0031 | | Course Category | | Specialized / Elective | |
| Class Format | | Lecture | | Credits | | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 2nd | |
| Term | | First Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | WATANABE Moriyoshi | | | | | |
| Course Objectives | | | | | | | |
| 1. Can explain the present situation and countermeasures for environmental problems, such as water pollution surrounding the water environment and ecosystem conservation. 2. Can address specific issues using methods for environmental impact assessment. 3. Can consider nature-oriented river works from technical and ecological perspectives. | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Can explain the present situation and countermeasures for environmental problems, such as water pollution surrounding the water environment and ecosystem conservation, using concrete examples. | | Can explain the present situation and countermeasures for environmental problems, such as water pollution surrounding the water environment and ecosystem conservation. | | Cannot explain the present situation and countermeasures for environmental problems, such as water pollution surrounding the water environment and ecosystem conservation. | |
| Achievement 2 | | Can address specific issues using several methods for environmental impact assessment. | | Can address specific issues using methods for environmental impact assessment. | | Cannot address specific issues using methods for environmental impact assessment. | |
| Achievement 3 | | Can specifically consider nature-oriented river works from technical and ecological perspectives. | | Can consider nature-oriented river works from technical and ecological perspectives. | | Cannot consider nature-oriented river works from technical and ecological perspectives. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | Students will learn about the conservation and creation of the waterfront environment from the viewpoints of rivers and lake utilization, disaster prevention, and ecosystem conservation. | | | | | |
| Style | | The class will be taught mainly with handouts and slides. Students will also make themed presentations based on the knowledge they have learned. | | | | | |
| Notice | | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The course is open to students from any department. Classes will be taught as simply as possible, but students should prepare textbooks. Basic knowledge of hydraulics, sanitary engineering and environmental engineering will be explained in the lecture as much as possible. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
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| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 1st Semester | 1st Quarter | 1st | Guidance | | Understand the course outline and objectives. | | |
| | | 2nd | River environment 1 | | Can survey an actual river, and observe and record the characteristics from a disaster prevention and natural environment perspective. | | |
| | | 3rd | River environment 2 | | Can share the field observation results, and explain the river environment's current state. | | |
| | | 4th | The River Act | | Can explain an outline of the River Act. | | |
| | | 5th | Basics of river ecosystems | | Can explain the functions and structures of river ecosystems. | | |
| | | 6th | The roles of river structures and involvement in ecosystems | | Can explain the roles of river structures and involvement in ecosystems. | | |
| | | 7th | Nature-oriented river works | | Can explain the history, background, and outline of nature-oriented rivers works. | | |
| | | 8th | Nature-oriented river works 2 | | Can explain nature-oriented river works using examples. | | |
| | 2nd Quarter | 9th | Assessment of river ecosystems | | Can learn about the history and outline of river ecosystem assessment and solve exercise problems on assessment methods for identifying river fish habitats. | | |
| | | 10th | Environmental impact assessment | | Learn about environmental impact assessment methods and understand the themed presentation assignment. | | |

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| | | 11th | Preparation for themed presentation | Can explain how to collect materials and how to cite literature when creating presentation materials. |
| | | 12th | Themed presentations 1 | Present and answer questions. Can also point out possible improvements for other students' presentations. |
| | | 13th | Themed presentations 2 | Present and answer questions. Can also point out possible improvements for other students' presentations. |
| | | 14th | Themed presentations 3 | Present and answer questions. Can also point out possible improvements for other students' presentations. |
| | | 15th | Themed presentations summary | Can give an explanation for the points that were pointed out but could not be answered during presentation. |
| | | 16th | Final exam | |

| Evaluation Method and Weight (%) | | | | |
|----------------------------------|-------------|--------------|-------------|-------|
| | Examination | Presentation | Assignments | Total |
| Subtotal | 50 | 20 | 30 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 50 | 20 | 30 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 |

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|--|--|---------------------------------------|--|--|---|
| Akashi College | | Year | 2021 | Course Title | Hydraulic Engineering II |
| Course Information | | | | | |
| Course Code | 0032 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | KANDA Keiichi | | | | |
| Course Objectives | | | | | |
| <p>(1) Understand the impact and responsibilities of technology on society and nature, and understand and can explain what is needed for ensuring happy and comfortable living for people and preserving a good natural environment.</p> <p>(2) Understand the basic idea and knowledge of a river's hydraulic and disaster prevention functions and can explain them to others.</p> <p>(3) Understand rivers' ecological and environmental functions and the basic idea of nature-oriented river works in connection with river and river basin environment conservation and creation, and can also find disaster prevention problems with individual construction cases and their solutions.</p> | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Understand the impact and responsibilities of technology on society and nature, and fully understand and can carefully explain what is needed for ensuring happy and comfortable living for people and preserving a good natural environment. | | Understand the impact and responsibilities of technology on society and nature, and understand and can explain what is needed for ensuring happy and comfortable living for people and preserving a good natural environment. | | Do not understand the impact and responsibilities of technology on society and nature, and do not understand and cannot explain what is needed for ensuring happy and comfortable living for people and preserving a good natural environment. |
| Achievement 2 | Fully understand the basic idea and knowledge of a river's hydraulic and disaster prevention functions, and can carefully explain them to others. | | Understand the basic idea and knowledge of a river's hydraulic and disaster prevention functions, and can explain them to others. | | Do not understand the basic idea and knowledge of a river's hydraulic and disaster prevention functions, and cannot explain them to others. |
| Achievement 3 | Fully understand rivers' ecological and environmental functions and the basic idea of nature-oriented river works in connection with river and river basin environment conservation and creation, and can also find and explain disaster prevention problems with individual construction cases and their solutions. | | Understand rivers' ecological and environmental functions and the basic idea of nature-oriented river works in connection with river and river basin environment conservation and creation, and can also find disaster prevention problems with individual construction cases and their solutions. | | Do not understand rivers' ecological and environmental functions and the basic idea of nature-oriented river works in connection with river and river basin environment conservation and creation. Also, cannot find disaster prevention problems with individual construction cases and their solutions. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | This course will teach about the various engineering problems of rivers and river basin environments and their solutions as an application of the basic theory and technology related to River Engineering and Environmental Engineering taught in Kosen's Regular Course. Seeing rivers as a component of a city, the course will consider their roles and relationships with formation of urban cities, including as a source of water supply, its disaster prevention functions against floods, and creation of urban landscapes and habitats for aquatic life, etc. Specifically, classes will discuss urban water disasters and how to protect against them, and quicksand and river bed variations, and also teach the basic idea, construction examples, and problems of nature-oriented river works. | | | | |
| Style | How classes will proceed, their content and method: Classes will be explained as simply as possible, mainly using the textbook, and supplementary materials such as slides, etc. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The course is open to students from any department. Classes will be taught as simply as possible, but students are required to have a basic knowledge of hydraulics, environment and rivers. Carefully read the materials and handouts that will be distributed in advance and understand their content. Students who miss 1/3 or more of classes will not be eligible for a passing grade. Contact: kanda@akashi.ac.jp | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | Formation of rivers and urban cities | Learn about rivers and their basins, and can explain the role that they have played or the impact that they have had in city development as a platform for people's livelihoods and production activities. | |

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| | | 2nd | Urban flood disasters and their countermeasures (1) | Can classify urban floods in an engineering manner, extract their characteristics, and explain statistical methods for estimating the amount of water that causes urban flood disasters. |
| | | 3rd | Urban flood disasters and their countermeasures (2) | Can describe the actual situations and examples of urban flood disasters such as submersing or washing away houses, severing roads, damaging or destroying bridges, etc., due to overflow and sediment runoff. Also, can explain prevention and mitigation measures. |
| | | 4th | Urban flood disasters and their countermeasures (3) | Can explain as development methods for water resources in urban areas, countermeasures using structures such as dams and weirs—the cornerstones of river water utilization plans—and other softer countermeasures. |
| | | 5th | Basis of earth and sand hydraulics | Understand the sediment transport phenomenon, and can explain how earth and sand is produced along the river channels in mountainous areas such as surface erosion, landslides, and debris flow, and how to estimate the amount of earth and sand produced. |
| | | 6th | Estimating amounts of quicksand | Understand, in the context of hydraulics, the mechanism that transports earth and sand produced in river channels through them by stream, and can explain how to estimate the amount of quicksand. |
| | | 7th | River bed variations and sand bank formations | Understand river bed variations caused by the amount of quicksand's spatial imbalance and its scales, and can explain the formation of river channels and their changes. |
| | | 8th | Local scouring around river structures and controlling it | Can classify and organize the causes and forms of local scouring that occurs around river structures such as weirs, ground sills, and groynes, and explain how to assess and control scour depth using concrete examples. |
| | 4th Quarter | 9th | River ecological environments and their assessment (1) | Understand how to preserve river ecological environments as habitats for aquatic life and shore vegetation in relation to human life, and can explain basic strategies for improving the fish habitat. |
| | | 10th | River ecological environments and assessing them (2) | Can explain how to quantitatively assess how a river's ecological environment changes when it is affected by human influence in ways such as basin area development and river structure installation. |
| | | 11th | River environment and scenery | Can consider the ideal state of rivers as components of urban landscapes, and explain the characteristics and the assessment criteria of river scenery. |
| | | 12th | Overview of nature-oriented river works | Can explain the basic philosophy of nature-oriented river works for preserving and creating beautiful scenery while taking into account a good environment for the creatures native to it, and the various river improvement methods. |
| | | 13th | Present situation and problems of nature-oriented river improvement methods | Understand planning and implementation of nature-oriented river works that use traditional methods such as masonry revetments, vegetative covered revetments, and wooden mattress, and can consider the future and ideal states of nature-oriented river works from analysis of successful and failed examples. |
| | | 14th | What is fish-friendly river creation? | Can explain fish habitat diversity in nature-oriented river works. |
| | | 15th | Present situation and problems of citizen participation in nature-oriented river improvements | Cooperation from community residents is essential to nature-oriented river works, from planning and construction up to operation and maintenance. Can explain the actual situation of citizen participation and how it should work. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Report | Behavior | Portfolio | Other | Total |
|-------------------------|-------------|--------------|--------|----------|-----------|-------|-------|
| Subtotal | 70 | 0 | 30 | 0 | 0 | 0 | 100 |
| Basic Proficiency | 10 | 0 | 10 | 0 | 0 | 0 | 20 |
| Specialized Proficiency | 60 | 0 | 20 | 0 | 0 | 0 | 80 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|--|---------------------------------------|---|---|--|
| Akashi College | | Year | 2021 | Course Title | Geotechnical Engineering System |
| Course Information | | | | | |
| Course Code | 0033 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | NABESHIMA Yasuyuki | | | | |
| Course Objectives | | | | | |
| Understand that the issues dealt with in geotechnical engineering are extremely various and diverse, and (1) Can assess geological risks and plan and design countermeasures to address them (learning and education goals [E, F, and H]). (2) Can reasonably plan and design countermeasures for geotechnical engineering problems (E, F, and H). | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can appropriately assess geological risks and plan and design specific countermeasures to address them. | | Can assess geological risks and plan and design countermeasures to address them. | | Can reasonably plan and design specific countermeasures for geotechnical engineering problems. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (E) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | Geotechnical Engineering System do not simply take a mechanical look at the ground, but rather cultivate viewpoints to look at it from environmental aspects. For this reason, the study objectives are to understand what the ground is from a geotechnical engineering perspective, and the clues for identifying it from the perspectives of topography, geology, etc., in order to prevent ground disasters, and be able to reasonably plan and design countermeasures (E, F, and H). | | | | |
| Style | This course will be conducted with a combination of lecture-style classes and practical lessons through field work and exercises. Field work will be conducted in the form of an intensive course. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes or absent from the field work without permission will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester r | 1st Quarter | 1st | Overview of geotechnical engineering systems [Nabeshima] In recent years, it is impossible to plan various structures without consideration for the ground environment in addition to ground disasters. Explain how to view the ground systematically. | Learn how to view the ground systematically. | |
| | | 2nd | Basic knowledge of geological surveys [Nabeshima] Explain the basic details related to geological risks in mechanisms that generate natural disasters. | Learn the basic details related to geological risks . | |
| | | 3rd | Field work (1) [Nabeshima] On location, explain the rocks in the Rokko mountain range, and the weathering phenomenon. | On location, explain the weathering phenomenon of granite. | |
| | | 4th | Field work (2) [Nabeshima] On location, learn about Mt. Kabuto's geological structure and explain the difference between plutonic and volcanic rock through exercises. | Learn about the difference between plutonic and volcanic rock. | |
| | | 5th | Field work (3) [Nabeshima] Learn about landslide disasters at the Rokko mountain range and explain countermeasure constructions against landslides, using the Nigawa landslide as an example. | Learn about countermeasure constructions, using landslide disasters as examples. | |
| | | 6th | Field work (4) [Nabeshima] Explain how to read a stratum's strike and inclination using a clinometer by measuring a real one. | Learn how to read the strike and inclination with a clinometer. | |
| | | 7th | Organizing the field work [Nabeshima] Organize what was practiced and understood during the field work. | Learn about rock types and characteristics and weathering effects. | |
| | | 8th | Reviewing the field work [Nabeshima] Explain disaster prevention and mitigation measures for natural disasters by reviewing what was learned in the field work. | Learn about disaster prevention and mitigation measures for natural disasters through the field work. | |

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| | 2nd Quarter | 9th | Ways for viewing the ground [Nabeshima] Define the "ground" from a geotechnical engineering perspective and teach ways to view it. | Define the "ground" from a geotechnical engineering perspective and learn ways to view it. |
| | | 10th | Landslide disasters caused by heavy rain (1) [Nabeshima] Explain past examples of landslide disasters caused by heavy rain in Hyogo Prefecture. | Learn about past examples of landslide disasters caused by heavy rain in Hyogo Prefecture. |
| | | 11th | Landslide disasters caused by heavy rain (2) [Nabeshima] Explain past examples of landslide disasters caused by heavy rain in Hyogo Prefecture. | Learn about past examples of landslide disasters caused by heavy rain in Hyogo Prefecture. |
| | | 12th | Field work (5) [Nabeshima] Explain how to read topography based on topography around school. | Learn the points for reading topography by observing actual topography. |
| | | 13th | Field work (6) [Nabeshima] Explain terrace topography based on topography around the school. | Learn how to read terrace topography by observing actual topography. |
| | | 14th | Field work (7) [Nabeshima] Explain valley-filling land elevations based on topography around the school. | Learn how to determine where valley-filling land elevations are by observing actual topography. |
| | | 15th | Field work (8) [Nabeshima] Explain the geohazards that can be expected from topography around school. | Read the actual topography and learn about the geohazards that can be expected. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|-------------------------|-------------|--------------|-------------------------------------|----------|-----------|-------|-------|
| Subtotal | 0 | 80 | 0 | 20 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 80 | 0 | 20 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|---|---|---------------------------------------|---|--|--|--|
| Akashi College | | Year | 2021 | | Course Title | Planning System |
| Course Information | | | | | | |
| Course Code | 0034 | | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | | Student Grade | Adv. 2nd | |
| Term | First Semester | | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | ISHIMATSU Kazuhito | | | | | |
| Course Objectives | | | | | | |
| (1) Understand problems with the urban systems by surveying cities, upon understanding the terms related to urban systems and urban planning (C). | | | | | | |
| (2) Can consistently explain and interpret various urban phenomena from the market mechanism (H). | | | | | | |
| (3) Can analyze and assess urban phenomena and build a desirable urban system (F). | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | Comprehensively understand problems with the urban systems by surveying cities, upon understanding the terms related to urban systems and urban planning. | | Understand problems with the urban systems by surveying cities, upon understanding the terms related to urban systems and urban planning. | | Do not understand problems with the urban systems by surveying cities, upon understanding the terms related to urban systems and urban planning. | |
| Achievement 2 | Can consistently explain and interpret various urban phenomena from the market mechanism. | | Can explain and interpret various urban phenomena from the market mechanism. | | Cannot explain and interpret various urban phenomena from the market mechanism. | |
| Achievement 3 | Can comprehensively analyze and assess urban phenomena and build a desirable urban system. | | Can analyze and assess urban phenomena and build a desirable urban system. | | Cannot analyze and assess urban phenomena and build a desirable urban system. | |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (C) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | | |
| Teaching Method | | | | | | |
| Outline | This course will be taught by an instructor who is a member of a private think tank and was in charge of urban and regional planning and economic analysis. It will explain the concept and outline of urban planning methods, and also cover matters that are becoming important in urban and regional space planning and development in recent years. In addition, there will be lectures on the concepts and methods for dealing with these matters in a systematic manner. | | | | | |
| Style | Lectures will be based on textbooks and handouts. The overall evaluation will be based 60% on periodic exams, 30% on presentations and group discussions, 10% on attitude toward class activities such as Q&A sessions. The minimum score for a pass will be 60%. | | | | | |
| Notice | This course's content will amount to 90 hours in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Before attending the lectures, carefully read the materials distributed in advance and fully understand the content. Taking advantage of a small class size, lessons will focus on dialogs and have students present the planning methods and case examples that are in the distributed handouts and reference books in turn. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester | 1st Quarter | 1st | Perception of the times Lecture from a broad perspective on where urban planning came from and where it is headed. | Can explain from a broad perspective on where urban planning came from and where it is headed. | | |
| | | 2nd | Land use and facility layouts I Lecture on how to create a city's structure and manage its transformation. | Can explain how to create a city's structure and manage its transformation. | | |
| | | 3rd | Land use and facility layouts II Lecture on how to create a city's structure and manage its transformation. | Can explain how to create a city's structure and manage its transformation. | | |
| | | 4th | Urban transportation Lecture on the urban transportation that supports urban functions and living. | Can explain the urban transportation that supports urban functions and living. | | |
| | | 5th | The living environment Lecture on the living environment that sets up the foundations for urban residence. | Can explain the living environment that sets up the foundations for urban residence. | | |
| | | 6th | Urban design Lecture on urban design to create attractive urban spaces. | Can explain urban design to create attractive urban spaces. | | |
| | | 7th | Urban green areas I Lecture on urban green areas, which connect cities with nature. | Can explain urban green areas, which connect cities with nature. | | |

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| | 2nd Quarter | 8th | Urban green areas II Lecture on urban green areas, which connect cities with nature. | Can explain urban green areas, which connect cities with nature. |
| | | 9th | Urban green areas III Lecture on urban green areas, which connect cities with nature. | Can explain urban green areas, which connect cities with nature. |
| | | 10th | Student presentations I Select presentation items from references and other sources, and have students present them in turn. Take urban planning in Japan and overseas, summarize its objectives, significance, and problems into a presentation about 20 minutes in length, and exchange questions and answers between students. | Can take urban planning in Japan and overseas, summarize its objectives, significance, and problems into a presentation about 20 minutes long, and discuss them. |
| | | 11th | Urban disaster prevention Lecture on urban disaster prevention in order to reduce urban disasters and create safe and comfortable cities. | Can explain urban disaster prevention in order to reduce urban disasters and create safe and comfortable cities. |
| | | 12th | Wide-area plans Lecture on wide-area plans for the integrated development of expanding and changing urban areas. | Can explain wide-area plans for the integrated development of expanding and changing urban areas. |
| | | 13th | Planning techniques Lecture on the planning techniques that support urban planning. | Can explain the planning techniques that support urban planning. |
| | | 14th | Function theory Lecture on urban planning mindsets. | Can explain urban planning mindsets. |
| | | 15th | Student presentations II Select presentation items from references and other sources, and have students present them in turn. Take urban planning in Japan and overseas, summarize its objectives, significance, and problems into a presentation about 20 minutes in length, and exchange questions and answers between students. | Can take urban planning in Japan and overseas, summarize its objectives, significance, and problems into a presentation about 20 minutes long, and discuss them. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Behavior | Portfolio | Other | Total |
|-------------------------|-------------|--------------|-------------------------------------|----------|-----------|-------|-------|
| Subtotal | 60 | 30 | 0 | 10 | 0 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 60 | 30 | 0 | 10 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | |
|--|--|---------------------------------------|---|---|---|
| Akashi College | | Year | 2021 | Course Title | Disaster Prevention System I |
| Course Information | | | | | |
| Course Code | 0035 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | ISHIMARU Kazuhiro | | | | |
| Course Objectives | | | | | |
| (1) Can explain the mechanism of earthquakes, magnitude, and seismic intensity scale. (2) Can explain the seismic resistance, control, and isolation of structures, and earthquake disaster prevention. (3) Can research earthquake records and damage situations that have been observed and explain their characteristics. (F, H) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | (1) Can explain the mechanism of earthquakes, magnitude, and seismic intensity scale in detail. | | (1) Can explain the mechanism of earthquakes, magnitude, and seismic intensity scale. | | (1) Cannot explain the mechanism of earthquakes, magnitude, and seismic intensity scale. |
| Achievement 2 | (2) Can explain the seismic resistance, control, and isolation of structures, and earthquake disaster prevention in detail. | | (2) Can explain the seismic resistance, control, and isolation of structures, and earthquake disaster prevention. | | (2) Cannot explain the seismic resistance, control, and isolation of structures, and earthquake disaster prevention. |
| Achievement 3 | (3) Can research earthquake records and damage situations that have been observed and explain their characteristics in detail. | | (3) Can research earthquake records and damage situations that have been observed and explain their characteristics. | | (3) Cannot research earthquake records and damage situations that have been observed and explain their characteristics. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | This course will teach matters related to seismic engineering, the mechanism of earthquakes, ground and ground motion, the seismic resistance, control, and isolation of structures, and earthquake disaster prevention. In particular, the lectures will focus on various data on the major earthquakes that have occurred since the Great Hanshin Earthquake. | | | | |
| Style | Classes will be conducted using handouts, slides, and note-taking. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The course is open to students from any department. Classes will be taught as simply as possible. Read the materials that will be distributed in advance, understand the content well, and summarize the main points and questions. Also, students will need to search for materials on the Internet, therefore they must understand how to use it. Students who miss 1/3 or more of classes will not be eligible for a passing grade. The minimum score for a pass will be 60%. Achievement will be based on a report about the level of understanding related to seismic resistance and isolation of structures and research based on that understanding on earthquake-proofing measures seen in actual structures (30%), presentations and discussions (40%), and a research report on earthquake damage (30%). The report assignments are as follows, and both 1) and 2) must be submitted. 1) Report on the damage caused by past earthquakes 2) Report on the seismic resistance, isolation, and control structures used in houses | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | History of seismology Learn about the ancient concepts and history of earthquakes, learn about how seismology was established, and learn how it is used today. | Can explain the history of seismology. | |
| | | 2nd | Mechanism of earthquakes An earthquake is a natural phenomenon that for some reason is caused by the sudden destruction of rocks that make up the Earth. Learn about the mechanism of how it occurs. | Can explain the mechanism of earthquakes. | |
| | | 3rd | Size and intensity of earthquakes Learn about magnitude and the seismic intensity scale, which are parameters for representing an earthquake's size and the intensity of its ground motion. | Can explain the size and intensity of earthquakes. | |
| | | 4th | Ground motion and fault models Learn about the relationship between ground motion and fault models. | Can explain ground motion and fault models. | |

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| | | 5th | Seismoscopes and seismometers Understand the difference between seismoscopes and seismometers. | Can explain seismoscopes and seismometers. |
| | | 6th | Characteristics of seismometers Learn about the characteristics of seismometers. In particular, learn about the principle of pretrigger to measure and keep records after an earthquake has occurred using actual measuring equipment. | Can explain the characteristics of seismometers. |
| | | 7th | Seismic wave simulation Operate a shake table which can simulate seismic waves, and learn about points to be careful of and problems, etc. when testing with them. | Can operate a shake table to simulate seismic waves and explain the problems when using it. |
| | | 8th | About design ground motion Learn about the seismic coefficient method, time history response, etc. regarding ground motion used in design. | Can explain design ground motion. |
| | 2nd Quarter | 9th | About K-Net Learn about Japan's seismograph networks. | Can explain K-NET. |
| | | 10th | About earthquakes observed with K-NET Obtain seismic data currently observed with K-NET from the National Research Institute for Earth Science and Disaster Resilience, and learn about the relationship between an earthquake's size and damage. | Can obtain the seismic waves of an earthquake observed with K-NET and explain its size and damage. |
| | | 11th | Damage caused by past major earthquakes Study the characteristics of major earthquakes that caused significant damage and learn about the damage that was done. | Can explain the damage caused by past major earthquakes. |
| | | 12th | Group work on earthquake disaster prevention Earthquakes cause various kinds of damage, and therefore, there are many ways to minimize the damage. Accordingly, work in groups and think about disaster prevention and reduction against various earthquakes, and their responses. | Think about disaster prevention and reduction, and responses afterward through group work on earthquake disaster prevention. |
| | | 13th | About seismic resistance, control, and isolation Study and learn about seismic resistance, control, and isolation. | Can explain seismic resistance, control, and isolation |
| | | 14th | Earthquake-proofing measures in houses There are many ways to protect buildings from earthquakes. Examine the various earthquake-proofing measures employed by house manufacturers. | Can explain earthquake-proofing measures in houses. |
| | | 15th | Presentations on earthquake-proofing measures in houses Summarize and present earthquake-proofing measures adopted by house manufacturers. | Can explain earthquake-proofing measures in today's houses in individual presentations. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Report(Earthquake damage) | Report(Earthquake-proof building) | Other | Total |
|-------------------------|-------------|--------------|-------------------------------------|---------------------------|-----------------------------------|-------|-------|
| Subtotal | 0 | 40 | 0 | 30 | 30 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 40 | 0 | 30 | 30 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|---|-------------|--|---|---|---|---|--|
| Akashi College | | Year | 2021 | | Course Title | Disaster Prevention System II | |
| Course Information | | | | | | | |
| Course Code | | 0036 | | Course Category | | Specialized / Elective | |
| Class Format | | Lecture | | Credits | | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 2nd | |
| Term | | Second Semester | | Classes per Week | | 2 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | SUMIO Hiroyuki | | | | | |
| Course Objectives | | | | | | | |
| (1) Understand and can explain the basic concepts of disaster prevention and reduction against natural disasters, etc., approaches to town planning with disaster prevention in mind, and methods for developing social infrastructure facilities. (F, H) | | | | | | | |
| (2) Understand and can explain the need and process of developing social infrastructure facilities that support towns, and the disaster prevention and reduction efforts in developing such facilities. (F, H) | | | | | | | |
| (3) Can think of the development of safe and secure towns and urban systems. (F) | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Understand and can explain the approaches to town planning with disaster prevention in mind, and methods for developing social infrastructure facilities in concrete terms. | | Understand and can explain the approaches to town planning with disaster prevention in mind, and methods for developing social infrastructure facilities. | | Do not understand and cannot explain the approaches to town planning with disaster prevention in mind, and methods for developing social infrastructure facilities. | |
| Achievement 2 | | Can explain the disaster prevention and reduction efforts in concrete terms. | | Can explain the disaster prevention and reduction efforts. | | Cannot explain the disaster prevention and reduction efforts. | |
| Achievement 3 | | Can explain the development of safe and secure towns and urban systems in concrete terms. | | Can explain the development of safe and secure towns and urban systems. | | Cannot explain the development of safe and secure towns and urban systems. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (E) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | This course will be taught by an instructor who was engaged in planning, construction, and management of social infrastructure facilities in Hyogo Prefecture for 33 years based on his experience. The lessons will explain the approaches to town planning with disaster prevention in mind to minimize the damage of natural disasters, etc. that hit cities and regions, and the development of social infrastructure facilities that support towns. (1) Explain comprehensively both hard and soft approaches regarding natural disasters, etc. and town planning to mitigate and prevent damage, and the development of social infrastructure facilities. (2) Explain practical approaches such as planning and development in accordance with the process of developing social infrastructure facilities and their characteristics. | | | | | |
| Style | | Classes will be provided mainly in a lecture-style format. Liaison for this course at National Institute of Technology, Akashi College: Takao Miyoshi | | | | | |
| Notice | | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. The course is open to students from any department. Classes will be taught as simply as possible. Read the materials that will be distributed in advance, and understand the content well. Taking advantage of a small class size, lessons will focus on dialogs. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 2nd Semester | 3rd Quarter | 1st | Know the dangers and disasters of cities and regions (1) Know man-made and natural disasters. Learn the experiences of and lessons from earthquake disasters such as the Great Hanshin Earthquake and the Great East Japan Earthquake. | | Can explain the experiences of and lessons from earthquake disasters. | | |
| | | 2nd | Know the dangers and disasters of cities and regions (2) Learn the experiences of and lessons from natural disasters such as floods caused by heavy rain, which occur more frequently than earthquakes. In light of disasters in cities and regions, exchange views on disaster prevention and reduction. | | Can explain the experiences of and lessons from natural disasters such as floods caused by heavy rains. | | |
| | | 3rd | Learn about safe and secure town planning with disaster prevention, etc. in mind (1) Learn about physical plans for town planning (land use planning and space development) and the development of social infrastructure facilities. Exchange opinions on these hard measures. | | Can explain the hard measures for safe and secure town planning with disaster prevention, etc. in mind. | | |

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| | | 4th | Learn about safe and secure town planning with disaster prevention, etc. in mind (2) Learn about soft measures such as information, public relations, and community development for strengthening human disaster prevention capabilities. Exchange opinions on these soft measures. | Can explain the soft measures for safe and secure town planning with disaster prevention, etc. in mind. |
| | | 5th | Design safe and secure cities and towns Study physical plans for new urban development cases on landfills in coastal areas, made land in urban suburban areas, and space development cases in established urban areas, and exchange opinions. | Can explain the design of safe and secure cities and towns. |
| | | 6th | Development of social infrastructure facilities that support safe and secure cities and towns (1) Learn about hard and soft measures against earthquakes and other disasters at water facilities, which are representative of lifeline facilities. Exchange opinions on these measures. | Can explain the development of social infrastructure facilities that support safe and secure cities and towns. |
| | | 7th | Development of social infrastructure facilities that support safe and secure cities and towns (2) Learn about hard and soft measures for flood disaster prevention and reduction at river facilities, which are representative of disaster prevention facilities. Exchange opinions on these measures. | Can explain the development of social infrastructure facilities that support safe and secure cities and towns. |
| | | 8th | The process of developing social infrastructure facilities Learn about the concept of social infrastructure facilities, operationalization and operating bodies, planning and decision-making, construction, and management. Touch on business profitability, cost-benefit ratio, and environmental assessment. | Can explain the process of developing social infrastructure facilities. |
| | 4th Quarter | 9th | River facilities (1) Learn and exchange opinions about practical approaches to river planning, development, and maintenance with disaster prevention and the environment in mind. Invite practitioners and experts as guest speakers as necessary. | Can explain river planning, development, and maintenance. |
| | | 10th | River facilities (2) Learn and exchange opinions about concepts of and approaches to general water control and practical approaches such as how to draw possible flood zones and create hazard maps. Invite practitioners and experts as guest speakers as necessary. | Can explain the concepts of and approaches to general water control. |
| | | 11th | Road facilities Learn and exchange opinions about practical approaches to road planning, development, and maintenance with disaster prevention and the environment in mind. Invite practitioners and experts as guest speakers as necessary. | Can explain the planning, development, and maintenance of road facilities. |
| | | 12th | Water facilities Maintenance is important for social infrastructure facilities to work. Learn and exchange opinions about practical approaches to asset management planning for water facilities that provide a sustainable supply of water. | Can explain water facility asset management. |
| | | 13th | Ports, fishing ports, and coastal facilities Learn and exchange opinions about practical approaches to port planning and development with measures against longshore drift and disaster prevention in fishing ports and coasts in mind. Invite practitioners and experts as guest speakers as necessary. | Can explain port and coastal facility construction and measures against tsunamis. |
| | | 14th | Residential land, Kansai International Airport (landfill) As the most familiar ground, learn about residential land safety, and exchange opinions. As a large-scale social infrastructure facility, introduce the construction process of Kansai International Airport. | Can explain residential land safety and the construction of made land. |
| | | 15th | For construction engineers who will lead society in the future Talk about career paths by future course and organization, and messages for underclassmen. Explain the assignment report details. | Can explain the role of construction engineers who will lead society in the future. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Examination | Efforts | Report | Behavior | Portfolio | Other | Total |
|----------|-------------|---------|--------|----------|-----------|-------|-------|
| Subtotal | 0 | 50 | 50 | 0 | 0 | 0 | 100 |

| | | | | | | | |
|-------------------------|---|----|----|---|---|---|-----|
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 0 | 50 | 50 | 0 | 0 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|--|--|---------------------------------------|--|---|--|
| Akashi College | | Year | 2021 | Course Title | Planning of Living Environment |
| Course Information | | | | | |
| Course Code | 0037 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | KUDOH Kazumi,MOTOZUKA Tomoki | | | | |
| Course Objectives | | | | | |
| 1. Understand the local characteristics of living spaces. (B) 2. Can explain the relationship between living spaces and environmental characteristics. (A) 3. Understand the historical changes of living spaces and the contemporary issues. (A) 4. Can consider living space planning issues. (H) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Understand and can explain the local characteristics of living spaces. | | Understand the local characteristics of living spaces. | | Do not understand the local characteristics of living spaces. |
| Achievement 2 | Can explain the relationship between living spaces and environmental characteristics from a unique perspective. | | Can explain the relationship between living spaces and environmental characteristics. | | Cannot explain the relationship between living spaces and environmental characteristics. |
| Achievement 3 | Understand and can explain the historical changes of living spaces and the contemporary issues. | | Understand the historical changes of living spaces and the contemporary issues. | | Do not understand the historical changes of living spaces and the contemporary issues. |
| | Can consider living space planning issues from a unique perspective. | | Can consider living space planning issues. | | Cannot consider living space planning issues. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (B) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | This course will analyze housing around the world using its diversity and local characteristics as clues and understand living spaces. The aim is to understand the historical processes and cultural diversity of living spaces and be able to apply these things to living space planning. | | | | |
| Style | Classes will be taught by Mototsuka from weeks 1 to 6, and by Kudo from weeks 11 to 15. Weeks 7 to 10 will be taught by Mototsuka and Kudo. Rather than just one-way lectures from teachers, students will consider various forms of housing and develop diverse perspectives regarding living spaces through discussions between faculty members and other students. Students will visit traditional buildings that have been moved and preserved, and analyze them from unique perspectives using their real experiences of living spaces. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | <input type="checkbox"/> Instructor Professionally Experienced |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Living on the earth Understand the birth and forms of housing and the housing system based on regional ecosystems. | Understand the birth and forms of housing and the housing system based on regional ecosystems. | |
| | | 2nd | North and East Asian housing Analyze cases of North and East Asian housing and consider the relationship between the physical body and housing, and roofs and housing. | Can analyze cases of North and East Asian housing and consider the relationship between the physical body and housing, and roofs and housing. | |
| | | 3rd | Central and South Asian housing Analyze cases of Central and South Asian housing and consider the relationship between community and housing, and decoration and housing. | Can analyze cases of Central and South Asian housing and consider the relationship between community and housing, and decoration and housing. | |
| | | 4th | West Asian housing Analyze cases of West Asian housing and consider the homes' spatial structure the village space. | Can analyze cases of West Asian housing and consider the homes' spatial structure the village space. | |
| | | 5th | European housing Analyze cases of European housing and consider kitchen, toilet, and bathroom spaces. | Can analyze cases of European housing and consider kitchen, toilet, and bathroom spaces. | |
| | | 6th | Preparation for off-campus class (visit to a traditional-style house) | Can pre-study the features and local characteristics of the traditional buildings that will be visited. Can determine the points of the visit and analysis methods. | |

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|--|-------------|------|--|---|
| | | 7th | Off-campus class (visit to a traditional-style house) | Can analyze the spatial structure of actual living spaces after visiting facilities where traditional-style houses have been moved and preserved. |
| | | 8th | Off-campus class (visit to a traditional-style house) | Can analyze the spatial structure of actual living spaces after visiting facilities where traditional-style houses have been moved and preserved. |
| | 2nd Quarter | 9th | Off-campus class (visit to a traditional-style house) | Can analyze the spatial structure of actual living spaces after visiting facilities where traditional-style houses have been moved and preserved. |
| | | 10th | Off-campus class (visit to a traditional-style house) | Can analyze the spatial structure of actual living spaces after visiting facilities where traditional-style houses have been moved and preserved. |
| | | 11th | African housing Analyze cases of African housing and consider their family and living spaces. | Can analyze cases of African housing and consider their family and living spaces. |
| | | 12th | North American housing Analyze cases of North American housing and consider colonies and living spaces, and disasters and housing. | Can analyze cases of North American housing and consider colonies and living space, and disasters and housing. |
| | | 13th | Latin American housing Analyze cases of Latin American housing and consider temporary housing spaces. | Can analyze cases of Latin American housing and consider temporary housing spaces. |
| | | 14th | Oceania housing Analyze cases of Oceania housing and consider its local characteristics. | Can analyze cases of Oceania housing and consider its local characteristics. |
| | | 15th | Summary, review, and discussion Summarize the entire course. Deepen understanding through exchanging opinions, Q&As, and discussions. | Summarize the entire course. Understand through exchanging opinions, Q&As, and discussions. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Report | Total |
|-------------------------|-------------|--------------|--------|-------|
| Subtotal | 60 | 20 | 20 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 60 | 20 | 20 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 |

| | | | | | |
|--|---|---------------------------------------|--|---|--|
| Akashi College | | Year | 2021 | Course Title | Structural Design in Architecture |
| Course Information | | | | | |
| Course Code | 0038 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | First Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | KAKUNO Yoshinori | | | | |
| Course Objectives | | | | | |
| (1) Can study, research, and present various structural formats, including case examples. (learning and educational goal [D]) (2) Can conduct main structural planning and basic design (creating sketches and CAD drawings for models) for a structure according to a selected structural format and present them. (learning and education goal [H]) (3) Can produce a structural model, perform load tests based on appropriate loading methods, and summarize and present a typical performance evaluation for a structure. (learning and Education goal [F]) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can appropriately study, research, and present various structural formats, including case examples. | | Can study, research, and present various structural formats, including case examples. | | Cannot study, research, and present various structural formats, including case examples. |
| Achievement 2 | Can appropriately conduct and present main structural planning and basic design for a structure. | | Can conduct and present main structural planning and basic design for a structure. | | Cannot conduct and present main structural planning and basic design for a structure. |
| Achievement 3 | Can appropriately summarize and present a typical performance evaluation for a structure. | | Can summarize and present a typical performance evaluation for a structure. | | Cannot summarize and present a typical performance evaluation for a structure. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (D) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | Using knowledge of the types and characteristics of loads, structural materials, structural formats, and the theory and concept of structural design, students will practice the structural design process on a small scale based on making things. This means that they will study and research various structural formats, and understand their characteristics. Together with this, each group will conduct structural planning and basic design (create sketches and CAD drawings for model production) for the assignment structure. Students will produce a structural model based on the drawings and perform appropriate tests and analysis to verify the typical structural performance. | | | | |
| Style | Classes will be held in a lecture style. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students should actively research and gather a wide range of the latest materials, including examples of buildings, and use them in their group's structural design for the assignment structure. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 1st Semester | 1st Quarter | 1st | Assignment explanation Assignment explanation | Explain the assignment. Can discuss the various structural formats that one is responsible for. | |
| | | 2nd | Research and study (1) In groups, study and research the structural formats and design methods of trusses, frames, slings, shells and plates, domes, etc., including the latest case examples. | Can research and summarize structural formats, design methods, etc. for various structures. | |
| | | 3rd | Research and study (2) Same as above | Can research and summarize structural formats, design methods, etc. for various structures. | |
| | | 4th | Research and study (3) In groups, present and discuss study and research findings. | Can present study and research findings and discuss them. | |
| | | 5th | Research and study (4) In groups, present and discuss study and research findings. In addition, select an assignment structure. | Can select an assignment structure. | |
| | | 6th | Structural planning and basic design (1) Conduct structural planning (including intended use, scale, structural materials, etc.) and basic design (creating and analyzing sketches and CAD drawings for models, and quantitative estimation of model parts) for the assignment structure. | Can conduct structural planning and basic design for the assignment structure. | |
| | | 7th | Structural planning and basic design (2) Same as above | Can conduct structural planning and basic design for the assignment structure. | |

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|--|-------------|------|--|---|
| | | 8th | Structural planning and basic design (3) Same as above | Can conduct structural planning and basic design for the assignment structure. |
| | 2nd Quarter | 9th | Structural planning and basic design (4) In groups, present and discuss the structural planning and basic design for the assignment structure. | Can present and discuss the structural planning and basic design for the assignment structure. |
| | | 10th | Structural planning and basic design (5) Same as above, and in addition, examine appropriate test methods. | Can examine appropriate test methods. |
| | | 11th | Model production and testing (1) In groups, produce and record a model using the designated materials. (Dimensions, weight, and photos) | Can produce and record a model using the designated materials. |
| | | 12th | Model production and testing (2) Same as above | Can produce and record a model using the designated materials. |
| | | 13th | Model production and testing (3) Same as above, and create a test plan. (Loading methods, measuring methods, etc.) | Can create a test plan. |
| | | 14th | Model production and testing (4) Conduct a load test for a structural model and measure and record various data. | Can conduct a load test and measure and record various data. |
| | | 15th | Model production and testing (5) In groups, create reports on the model production and test results and considerations, and present and discuss them. | Can create reports on model production and test results and considerations, and present and discuss them. |
| | | 16th | No final exam | |

Evaluation Method and Weight (%)

| | Case study | Basic design | Modeling & experiment | Total |
|-------------------------|------------|--------------|-----------------------|-------|
| Subtotal | 30 | 30 | 40 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 30 | 30 | 40 | 100 |

| | | | | | | | |
|--|-------------|--|---|---|--|---|--|
| Akashi College | | Year | 2021 | | Course Title | Practice of Regional Planning II | |
| Course Information | | | | | | | |
| Course Code | | 0039 | | Course Category | | Specialized / Elective | |
| Class Format | | Seminar | | Credits | | School Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | | Adv. 2nd | |
| Term | | First Semester | | Classes per Week | | 4 | |
| Textbook and/or Teaching Materials | | | | | | | |
| Instructor | | KUDOH Kazumi | | | | | |
| Course Objectives | | | | | | | |
| 1) Understand the intention behind the competition's set tasks, and accurately understand its background and purpose, etc. 2) Can come up with multiple ideas, review them, and be able to finally put them together in one idea. 3) Can complete the requested details by the due date, and communicate about the submission to people in an easy-to-understand manner. | | | | | | | |
| Rubric | | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | | Accurately understand the intention behind the competition's set task. | | Roughly understand the intention behind the competition's set task. | | Do not understand the intention behind the competition's set task. | |
| Achievement 2 | | Can come up with multiple ideas, review them, and finally put them together in one idea. | | Can come up with one idea and summarize it. | | Cannot come up with any ideas, nor come up with and review multiple ones and finally put them together in one idea. | |
| Achievement 3 | | Can accurately communicate the contents of the submission to people. | | Can communicate the contents of the submission to people. | | Cannot communicate the contents of the submission to people. | |
| Assigned Department Objectives | | | | | | | |
| 学習・教育目標 (E) 学習・教育目標 (F) | | | | | | | |
| Teaching Method | | | | | | | |
| Outline | | The aim of this course is to make use of what students have learned in the specialized subjects and to work on the task for the KOSEN Design Competition . | | | | | |
| Style | | All students taking the course will read the task details, and then create proposals individually or in groups. The teacher in charge will provide instructions during each week's classes. | | | | | |
| Notice | | This course's credit requirement is to work on the task for the KOSEN Design Competition and submit the results in the end. Students who miss 1/5 or more of classes will not be eligible for a passing grade. | | | | | |
| Characteristics of Class / Division in Learning | | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced | |
| | | | | | | | |
| Course Plan | | | | | | | |
| | | | Theme | | Goals | | |
| 1st Semester r | 1st Quarter | 1st | Orientation Task description and making groups | | Understand the course content. | | |
| | | 2nd | Task analysis | | Can analyze the task and properly understand the its intent. | | |
| | | 3rd | Gathering materials related to the task | | Can gather the relevant materials. | | |
| | | 4th | Gathering materials related to the task | | Can gather the relevant materials. | | |
| | | 5th | Approach decisions | | Can decide an approach for the task. | | |
| | | 6th | Concepts and idea creation | | Can create concepts and ideas. | | |
| | | 7th | Concepts and idea creation | | Can create concepts and ideas. | | |
| | | 8th | Interim presentation: Present ideas | | Can communicate one's own thoughts to people in an easy-to-understand manner and can properly answer questions, etc. | | |
| | 2nd Quarter | 9th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 10th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 11th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 12th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 13th | (Structure) Design and production (Spatial and Environmental) Drawing creation | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 14th | Review sessions | | Can communicate one's own thoughts to people in an easy-to-understand manner and can properly answer questions, etc. | | |
| | | 15th | Brushing up | | Can create a drawing that meets the specifications for the final submission. | | |
| | | 16th | No final exam | | | | |
| Evaluation Method and Weight (%) | | | | | | | |

| | Final deliverables | Presentation | Report | Total |
|-------------------------|--------------------|--------------|--------|-------|
| Subtotal | 80 | 10 | 10 | 100 |
| Basic Proficiency | 10 | 0 | 5 | 15 |
| Specialized Proficiency | 40 | 0 | 5 | 45 |
| Cross Area Proficiency | 30 | 10 | 0 | 40 |

| | | | | | |
|---|--|---------------------------------------|---|--|---|
| Akashi College | | Year | 2021 | Course Title | Construction Theory for Human-Environment |
| Course Information | | | | | |
| Course Code | 0040 | | Course Category | Specialized / Elective | |
| Class Format | Lecture | | Credits | Academic Credit: 2 | |
| Department | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | |
| Instructor | OTSUKA Takehiko | | | | |
| Course Objectives | | | | | |
| (1) Compile the parts of handouts and textbooks that one is responsible for as a concrete summary, and explain and present the author's intentions in an easy-to-understand manner (E) (2) Understand design process basics from barrier-free to universal and inclusive design (A,H) (3) Nurture "awareness" and a universal mindset regarding the symbiosis of people and the environment in barrier-free and universal and inclusive design, and can consider the people concerned (A,H) | | | | | |
| Rubric | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | Can fully explain the concept and methodology of inclusive design. | | Can explain the concept and methodology of inclusive design. | | Cannot explain the concept and methodology of inclusive design. |
| Assigned Department Objectives | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (E) 学習・教育目標 (H) | | | | | |
| Teaching Method | | | | | |
| Outline | Born in the UK, inclusive design is a method of actively incorporating users into the design process such as those with disabilities and the elderly. It is introducing designs in collaboration with civic activity groups, charity organizations, and companies, that consumers with special needs, will not feel inferior and that can become mainstream in the market. In a broad sense, the concept is very close to universal design. The aim of this course is to introduce the concept of inclusive design and similar concepts surrounding it, and to learn about its foundations (15 weeks). | | | | |
| Style | The course will focus on a lecture- and discussion-style format with the people concerned, and there will be field visits from time to time where students can deepen their understanding. The relevant materials used in the lectures will be distributed as and when. | | | | |
| Notice | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | |
| Characteristics of Class / Division in Learning | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | |
| | | | | <input type="checkbox"/> Instructor Professionally Experienced | |
| Course Plan | | | | | |
| | | | Theme | Goals | |
| 2nd Semester | 3rd Quarter | 1st | Introduction: Beyond barrier-free Give an overview of an archive of global approaches toward creating an accessible environment that all people can use in a human-environment system. Outline the course objectives and clarify problem awareness for each person through discussion. | Understand an overview of global accessible design approaches in human-environmental systems. | |
| | | 2nd | Design aspects in human-environment systems Describe how to examine design aspects in human-environment systems. | Can explain how to examine design aspects in human-environment systems. | |
| | | 3rd | ICIDH (social disadvantages), an idea advocated by WHO Explain the idea of ICIDH (social disadvantages) that was advocated by WHO and the perception that it is caused by impaired physical function. An assignment in English will be given at the end of class and must be translated into Japanese by the following week. | Can explain the ICIDH (social disadvantages) advocated by WHO. | |
| | | 4th | The 2001 International Classification of Functioning, Disability and Health (ICF) Describe the need to reconsider "people with disabilities" and elderly people's "lifestyle models," which have been solved and respond to commonly by conventional medical models. Furthermore, discuss various disabilities. | Can explain the International Classification of Functioning, Disability and Health (ICF). | |
| | | 5th | What is universal design? Describe universal design principles and specific examples. | Can explain universal design concepts and specific examples. | |
| | | 6th | Training at the Hyogo Institute of Assistive Technology Train on barrier-free environments in residential and public spaces, focusing on accessibility with specific examples. | Understand welfare equipment in residential and public spaces, barrier-free home remodeling, and barrier-free housing. | |

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| | | 7th | User information Learn about understanding and use examples for various users' behavioral characteristics by utilizing the UD matrix by the International Association for Universal Design (IAUD). | Can describe various users' behavioral characteristics using the UD matrix. |
| | | 8th | Behavioral observation methods using observation engineering Explain about direct behavior observation methods by human-environmental systems. | Can explain about behavior observation methods by human-environmental systems. |
| | 4th Quarter | 9th | Behavioral observations by observation engineering Practice behavior observations by human-environmental systems. | Practice behavior observations and understand their techniques. |
| | | 10th | What is kansei-driven value design? Explain "kansei value" that increases the apparent value of products and services by targeting consumers' sensibility to make them relate to and feel emotional. | Can explain kansei-driven value design. |
| | | 11th | Examples of innovation with inclusive design Explain the Helen Hamlyn Centre for Design's design process by inclusive design at the Royal College of Art. | Can explain design process by inclusive design. |
| | | 12th | Inclusive design English reading 1 Read English documents and discuss the content | Can explain the content of English documents about inclusive design. |
| | | 13th | Inclusive design English reading 2 Read English documents and discuss the content | Can explain the content of English documents about inclusive design. |
| | | 14th | Design proposals with the inclusive design method Use the inclusive design method to do research for design proposals. | Can research using the inclusive design method. |
| | | 15th | Design proposals with the inclusive design method Propose designs using the inclusive design method to address the challenges for the people concerned. | Can propose specific designs using the inclusive design method to address the challenges for the people concerned. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Presentation | Mutual Evaluations between students | Behavior | Report | Other | Total |
|-------------------------|-------------|--------------|-------------------------------------|----------|--------|-------|-------|
| Subtotal | 70 | 0 | 0 | 0 | 30 | 0 | 100 |
| Basic Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Specialized Proficiency | 70 | 0 | 0 | 0 | 30 | 0 | 100 |
| Cross Area Proficiency | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | |
|--|-------------|---|--|---|--|--|
| Akashi College | | Year | 2021 | | Course Title | 日本の都市形成史 |
| Course Information | | | | | | |
| Course Code | | 0042 | | Course Category | Specialized / Elective | |
| Class Format | | Seminar | | Credits | Academic Credit: 2 | |
| Department | | Architecture and Civil Engineering | | Student Grade | Adv. 2nd | |
| Term | | Second Semester | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | | MIZUSHIMA Akane | | | | |
| Course Objectives | | | | | | |
| 1) Understand the characteristics of Japanese cities based on the climate, nature, culture, and other elements of the land. 2) Understand each Japanese city's changes and their characteristics. 3) Can express opinions on the problems that Japanese cities are facing today. | | | | | | |
| Rubric | | | | | | |
| | | Ideal Level | | Standard Level | | Unacceptable Level |
| Achievement 1 | | Can explain the characteristics of Japanese cities based on the climate, nature, culture, and other elements of the land, while referring to differences from other countries. | | Can explain the characteristics of Japanese cities based on the climate, nature, culture, and other elements of the land. | | Cannot explain the characteristics of Japanese cities based on the climate, nature, culture, and other elements of the land. |
| Achievement 2 | | Can explain each Japanese city's formation process and its changes while referring to their characteristics. | | Can explain each Japanese city's formation process and its changes. | | Cannot explain each Japanese city's formation process and its changes. |
| Achievement 3 | | Can express opinions on the problems that Japanese cities are facing today. | | Can explain the problems that Japanese cities are facing today. | | Cannot explain the problems that Japanese cities are facing today. |
| Assigned Department Objectives | | | | | | |
| 学習・教育目標 (A) 学習・教育目標 (F) 学習・教育目標 (H) | | | | | | |
| Teaching Method | | | | | | |
| Outline | | This course will take examples of some major cities in Japan and closely analyze their formation and changes. The objectives of the course are to understand that there are influences such as history, climate, culture, etc., behind a city's establishment, learn to closely analyze a city from a wide range of perspectives, and finally, study the history of a nearby city, and consider its future from students' own perspectives. | | | | |
| Style | | Classes are mainly conducted through lectures, presentations, and discussions. Students will be assigned small reports at the end of each lesson, and report assignments according to the lesson progress. Evaluation will be based on a comprehensive judgment of the submission of these reports, presentation attitude, statement content, etc. There will be no exams. To achieve this course's objectives and aims, students are required to do the following self-study outside of classes: 1) Pre-study the backgrounds (culture, politics, society, etc.) for the eras that will be covered in class; 2) be interested in a nearby city, use materials to research its history, and actually visit it to see the traces; and 3) read the relevant literature and books. Reference books: City History Illustration Collection Editorial Committee. "Toshishizushu" (Shokokusha), 1993, edited by Hiroyuki Suzuki et al. "Series, Toshi, Kenchiku, Rekishi" University of Tokyo Press, etc. | | | | |
| Notice | | This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students should ensure that they have fully prepared beforehand for discussions and presentations in class. | | | | |
| Characteristics of Class / Division in Learning | | | | | | |
| <input type="checkbox"/> Active Learning | | <input type="checkbox"/> Aided by ICT | | <input type="checkbox"/> Applicable to Remote Class | | <input type="checkbox"/> Instructor Professionally Experienced |
| | | | | | | |
| Course Plan | | | | | | |
| | | | Theme | | Goals | |
| 2nd Semester r | 3rd Quarter | 1st | Orientation Explain how this class will progress and how to research literature, materials, etc. | | Understand and can explain to others how to proceed with the class, how its evaluated, and what the goals are. | |
| | | 2nd | Ancient cities of Japan Establishment and transformation of Heijokyo and Heiankyo. | | Can explain capital cities. | |
| | | 3rd | Modern cities of Japan Establishment and development of Edo | | Can explain the characteristics of a modern city. | |
| | | 4th | Modernizing cities (Tokyo) From Edo to Tokyo | | Can explain the characteristics of Tokyo's modernization. | |
| | | 5th | Modernizing cities (Kyoto) Transfer of the capital and three major projects | | Can explain the characteristics of Kyoto's modernization. | |
| | | 6th | Modernizing cities (Kobe) Opening of Kobe Port and settlement construction | | Can explain the characteristics of the port city of Kobe. | |
| | | 7th | Development of suburban residential areas Development of suburban residential areas by electric railway companies | | Can explain the development of suburban residential areas by electric railway companies. | |
| | | 8th | Post-war city formations Urban city development in Kobe | | Can explain post-war Kobe's urban transformation. | |

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| | 4th Quarter | 9th | Cities and disasters Kobe and the Great Hanshin Earthquake. | Can explain the history of the city that has faced disaster. |
| | | 10th | The multicultural city of Kobe Co-existence with foreigners | Understand the characteristics of Kobe, where Japanese people and people from other countries have been co-existing. |
| | | 11th | Formation process of a nearby city Reveal the history of a nearby city through literature and field surveys. | Can decide a target city for one's investigation and study its changes. |
| | | 12th | Presentations Present the content studied and discuss it. | Can explain the content studied in a way that is easy to understand and briefly answer questions on it. |
| | | 13th | Tour 1 Visit a nearby historied city | Can notice traces of history that remain in the city |
| | | 14th | Tour 2 Visit a nearby historied city | Can notice traces of history that remain in the city |
| | | 15th | Summary Based on classes, consider future issues for cities | Can express opinions on problems that cities face today, while reviewing classes. |
| | | 16th | No final exam | No final exam |

| Evaluation Method and Weight (%) | | | | |
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| | Short report | Final Assignment | Presentation | Total |
| Subtotal | 30 | 60 | 10 | 100 |
| Basic Proficiency | 5 | 10 | 5 | 20 |
| Specialized Proficiency | 15 | 40 | 5 | 60 |
| Cross Area Proficiency | 10 | 10 | 0 | 20 |