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| Akashi College | | Year | 2022 | | Course Title | Science II B |
| Course Information | | | | | | |
| Course Code | 4205 | | | Course Category | General / Compulsory | |
| Class Format | Lecture | | | Credits | School Credit: 2 | |
| Department | Architecture | | | Student Grade | 2nd | |
| Term | Year-round | | | Classes per Week | 2 | |
| Textbook and/or Teaching Materials | | | | | | |
| Instructor | SAKURAI Yasuhiro | | | | | |
| Course Objectives | | | | | | |
| 1. Can explain and calculate the basic matters related to the composition of substances (including matters related to the bonding of particles). 2. Can use chemical equations, and explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. 3. Can explain and calculate the basic matters related to acids and bases. 4. Can explain and calculate the basic matters related to oxidation and reduction reactions. | | | | | | |
| Rubric | | | | | | |
| | Ideal Level | | Standard Level | | Unacceptable Level | |
| Achievement 1 | Can fully and accurately explain and calculate the basic matters related to the composition of substances (including matters related to the bonding of particles). | | Can explain and calculate the basic matters related to the composition of substances (including matters related to the bonding of particles). | | Cannot explain and calculate the basic matters related to the composition of substances (including matters related to the bonding of particles). | |
| Achievement 2 | Can use chemical equations, and fully and accurately explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. | | Can use chemical equations, and explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. | | Cannot use chemical equations, and explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. | |
| Achievement 3 | Can fully and accurately explain and calculate the basic matters related to acids and bases. | | Can explain and calculate the basic matters related to acids and bases. | | Cannot explain and calculate the basic matters related to acids and bases. | |
| Achievement 4 | Can fully and accurately explain and calculate the basic matters related to oxidation and reduction reactions. | | Can explain and calculate the basic matters related to oxidation and reduction reactions. | | Cannot explain and calculate the basic matters related to oxidation and reduction reactions. | |
| Assigned Department Objectives | | | | | | |
| Teaching Method | | | | | | |
| Outline | The objectives of this course is to gain a basic knowledge of chemicals, and to develop scientific thinking by understanding the basic theories of chemistry. | | | | | |
| Style | Classes are taught in a lecture-style format. | | | | | |
| Notice | We hope that by observing their everyday lives scientifically, students will recognize that chemistry is all around us. * Liaison: Ogasawara Students who miss 1/3 or more of classes will not be eligible for a passing grade. | | | | | |
| 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 checked="" type="checkbox"/> Instructor Professionally Experienced |
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| Course Plan | | | | | | |
| | | | Theme | Goals | | |
| 1st Semester r | 1st Quarter | 1st | Orientation: When learning chemistry | | | |
| | | 2nd | Composition of substances - 1 | Can explain and calculate the basic matters related to the composition of substances. | | |
| | | 3rd | Composition of substances - 2 | Can explain and calculate the basic matters related to the composition of substances. | | |
| | | 4th | Composition of substances - 3 | Can explain and calculate the basic matters related to the composition of substances. | | |
| | | 5th | Composition of substances - 4 | Can explain and calculate the basic matters related to the composition of substances. | | |
| | | 6th | Bonding of particles - 1 | Can explain and calculate the basic matters related to the bonding of particles. | | |
| | | 7th | Bonding of particles - 2 | Can explain and calculate the basic matters related to the bonding of particles. | | |
| | | 8th | Midterm exam | | | |
| | 2nd Quarter | 9th | Summary of the composition of substances | Can explain and calculate the basic matters related to the composition of substances and bonding of particles. | | |
| | | 10th | Chemical equations and relationship between the amounts of reactants and products in a reaction - 1 | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. | | |

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| 2nd Semester | | 11th | Chemical equations and relationship between the amounts of reactants and products in a reaction - 2 | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. |
| | | 12th | Chemical equations and relationship between the amounts of reactants and products in a reaction - 3 | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. |
| | | 13th | Chemical equations and relationship between the amounts of reactants and products in a reaction - 4 | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. |
| | | 14th | Chemical equations and relationship between the amounts of reactants and products in a reaction - 5 | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. |
| | | 15th | Chemical equations and relationship between the amounts of reactants and products in a reaction - 6 | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. |
| | | 16th | Final exam | |
| | 3rd Quarter | 1st | Summary of chemical equations and relationship between the amounts of reactants and products in a reaction | Can explain and calculate the basic matters related to the relationship between the amounts of reactants and products in a reaction. |
| | | 2nd | Reactions of acids and bases - 1 | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 3rd | Reactions of acids and bases - 2 | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 4th | Reactions of acids and bases - 3 | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 5th | Reactions of acids and bases - 4 | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 6th | Reactions of acids and bases - 5 | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 7th | Reactions of acids and bases - 6 | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 8th | Midterm exam | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | 4th Quarter | 9th | Summary of reactions of acids and bases | Can explain and calculate the basic matters related to reactions of acids and bases. |
| | | 10th | Oxidation and reduction reactions - 1 | Can explain and calculate the basic matters related to oxidation and reduction reactions. |
| | | 11th | Oxidation and reduction reactions - 2 | Can explain and calculate the basic matters related to oxidation and reduction reactions. |
| | | 12th | Oxidation and reduction reactions - 3 | Can explain and calculate the basic matters related to oxidation and reduction reactions. |
| | | 13th | Oxidation and reduction reactions - 4 | Can explain and calculate the basic matters related to oxidation and reduction reactions. |
| | | 14th | Oxidation and reduction reactions - 5 | Can explain and calculate the basic matters related to oxidation and reduction reactions. |
| | | 15th | Oxidation and reduction reactions - 6 | Can explain and calculate the basic matters related to oxidation and reduction reactions. |
| | | 16th | Final exam | |

Evaluation Method and Weight (%)

| | Examination | Report • Little test • Task | Total |
|-------------------------|-------------|-----------------------------|-------|
| Subtotal | 60 | 40 | 100 |
| Basic Proficiency | 60 | 40 | 100 |
| Specialized Proficiency | 0 | 0 | 0 |
| Cross Area Proficiency | 0 | 0 | 0 |