



Dominican International School

台北市私立道明外僑學校

No. 76, Dazhi Street, Taipei (104042), Taiwan, R.O.C.

10464 臺北市中山區大直街 76 號



COURSE SYLLABUS

School Year	2025-2026
Subject	AP CHEMISTRY
Grade Level	11
Teacher	Michael Hoffmann
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COURSE DESCRIPTION:

The AP Chemistry course provides students with a college-level foundation to support future advanced coursework in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore content such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium. The AP Chemistry course is designed to be the equivalent of the general chemistry course usually taken during the first college year.

PREREQUISITES Students should have successfully completed a general high school chemistry course and Algebra II.

LABORATORY REQUIREMENT This course requires that 25 percent of instructional time engages students in lab investigations. This includes a minimum of 16 hands-on labs (at least six of which are guided inquiry). It is required that students keep a lab notebook throughout.

COURSE OBJECTIVES: The following science practices describe what skills students should develop during the course:

- Models and Representations: Describe models and representations, including across scales.
- Question and Method: Determine scientific questions and methods.
- Representing Data and Phenomena: Create representations or models of chemical phenomena.
- Model Analysis: Analyze and interpret models and representations on a single scale or across multiple scales.
- Mathematical Routines: Solve problems using mathematical relationships.
- Argumentation: Develop an explanation or scientific argument.

PRIMARY TEXTBOOKS AND OTHER RESOURCES:

ISE Chemistry: The Molecular Nature of Matter and Change

Martin Silberberg; Patricia Amateis

ISBN 978-1-266-22283-2

GRADING SYSTEM/ASSESSMENT:

IN-CLASS ASSESSMENT

Students will be assigned daily homework. These assignments will be posted in the Google Classroom and will consist of video and written assignments. This course will follow the DIS student handbook policy for homework lateness. Most assignments will be digital in format and



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will be provided from the assigned textbook as well as from the AP College Board.

AP CHEMISTRY EXAM: 3 HOURS, 15 MINUTES

Assessment Overview

The AP Chemistry Exam assesses students' understanding of the science practices and learning objectives outlined in the course framework. The exam is 3 hours and 15 minutes long and includes 60 multiple-choice questions and 7 free-response questions. A scientific or graphing calculator is recommended for use on **both** sections of the exam. Students are provided with the periodic table and a formula sheet that lists specific and relevant formulas for use on the exam.

ACADEMIC DISHONESTY:

Academic Dishonesty means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at DIS.

Academic dishonesty includes but is not limited to the following:

- Purposely incorporating the ideas, words or sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's work;
- Representing another's intellectual work, such as photographs, paintings, drawings, sculpture, research, or the like, as one's own, including failure to attribute content to an AI.
- Employing a tutor, using Artificial Intelligence without acknowledgment, getting a parent to write a paper or do an assignment, and paying for an essay to be written by someone else and presented as the student's work.
- Committing any act that a reasonable person would conclude, when informed of the evidence, to be a dishonest means of obtaining or attempting to obtain credit for academic work.

Any act of academic dishonesty will result in an automatic zero on the entire assignment/learning task.



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First Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
Week 1 (4 days) (August 12 to 15) 4 days of class 12-General Assembly at the Gymnasium 15-Opening Mass & Assumption of Our Lady	1.1 Moles and Molar Mass 1.2 Mass Spectra of Elements 1.3 Elemental Composition of Pure Substances 1.4 Composition of Mixtures
Week 2 (5 days) (August 18 to 22) 18-St. Dominic de Guzman Feast Day Celebration Integrated during the Monday Assembly 20- House Shirt & Blue Jeans Day Starts 22- Club Orientation and Club Sign-up	LAB 1 - TBA 1.5 Atomic Structure and Electron Configuration 1.6 Photoelectron Spectroscopy 1.7 Periodic Trends 1.8 Valence Electrons and Ionic Compounds
Week 3 (5 days) (August 25 to 29) 27- High School Talk - "Kickstart Your Success: Winning Mindsets for a Great School Year" 29- First Club Meeting	2.1 Types of Chemical Bonds 2.2 Intramolecular Force and Potential Energy 2.3 Structure of Ionic Solids 2.4 Structure of Metals and Alloys
Week 4 (5 days) (September 1 to 5) 1- Launching of the World Day of Prayer for the Care of Creation (During the Monday Assembly) 1-AP Registration 3- AEO Fall University Fair 5- House Ceremony	LAB 2 - TBA 2.5 Lewis Diagrams 2.6 Resonance and Formal Charge 2.7 VSEPR and Hybridization 3.1 Intermolecular and Interparticle Forces
Week 5 (5 days) (September 8 to 12) 8- Holy Mass: Nativity of the Blessed Virgin Mary & VIP Induction 10- House Mini Games Start	3.2 Properties of Solids 3.3 Solids, Liquids, and Gases 3.4 Ideal Gas Law 3.5 Kinetic Molecular Theory 3.6 Deviation from Ideal Gas Law
Week 6 (5 days) (September 15 to 19) 15- Catholic Bridge Program for all New Students (After the	LAB 3 - TBA 3.7 Solutions and Mixtures 3.8 Representations of Solutions 3.9 Separation of Solutions and Mixtures 3.10 Solubility



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Monday Assembly at the Gymnasium) 19- Athletics / Sports Orientation 19- PSAT/NMSQT Registration deadline	
Week 7 (5 days) (September 22 to 26) 22- Celebration of the International Day of Peace-Peace Pole Ceremony (During the Monday Assembly) Teacher's Day Celebration & 26-Teachers' Appreciation 26- Grade 12 Career Educational Trip 24 to 26-Pre-Exam Days	3.11 Spectroscopy and the Electromagnetic Spectrum 3.12 Properties of Photons 3.13 Beer-Lambert Law
Week 8 (1 day) (September 29 to October 3) 29- Launching of the Month of the Holy Rosary (During the Monday Assembly) Oct. 1-2- First Quarter Exam (half day)	LAB 4 - TBA
<i>Oct. 3-DIS Teachers and Staff Recognition Day/ Record Day Recollection for Aunties and Uncles (no classes for students)</i>	



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Second Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
<i>6-Moon Festival (no classes)</i>	
<i>7-9 Teacher's Conference (no classes)</i>	
Week 1 (5 days) (October 13 to 17) 13- Second Quarter Begins 13- Start of New Applicant Enrollment for 2nd Semester 14- Visit of Mother Mary to Classrooms (During the morning prayer) 15- AP Exam Only Registration Deadline 15- Monthly Career Talk - College Prep 17- PSAT/NMSQT Digital Exam	LAB 5 - TBA 4.1 Introduction for Reactions 4.2 Net Ionic Equations 4.3 Representations of Reactions
Week 2 (4 days) (October 20 to 24) 20- Jubilee: Marian Exhibit Opening (After the Monday Assembly) 20- Campus Safety Talk for Students 24- Book Fair (Senior Escape Room)	4.4 Physical and Chemical Changes 4.5 Stoichiometry 4.6 Introduction to Titration 4.7 Types of Chemical Reactions
Week 3 (5 days) (October 27 to 31) 29- Grade 11 Career Educational Trip Oct. 31 to Nov. 1- Gr.6 SEL Camp	LAB 6 - TBA 4.8 Introduction to Acid-Base Reactions 4.9 Oxidation-Reduction (Redox) Reactions
Week 4 (5 days) (November 3 to 7) 3- Feast of St. Martin de Porres Mass (integrated during the Monday Assembly) 5- Monthly Career Talk - College Prep	5.1 Reaction Rates 5.2 Introduction to Rate Law 5.3 Concentration Changes Over Time 5.4 Elementary Reactions 5.5 Collision Model 5.6 Reaction Energy Profile
Week 5 (5 days) (November 10 to 14) 14- Health Week 14- VIP-Parent Learning Community	LAB 7 - TBA 5.7 Introduction to Reaction Mechanisms 5.8 Reaction Mechanism and Rate Law 5.9 Pre-Equilibrium Approximation



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Week 6 (5 days) (November 17 to 21) 17- Launching of Mental Health and Anti-Bullying Month 21- Young Shakespeare Play Writing and Performing Contest	5.10 Multistep Reaction Energy Profile 5.11 Catalysis 6.1 Endothermic and Exothermic Processes 6.2 Energy Diagrams
Week 7 (5 days) (November 24 to 28) 24- Peace Pole Day (Monday Assembly) 24- Lighting of the Christmas Tree after school (Campus Min/ ECA/ D' Torch Orchestra/ Religious Studies) (Afternoon) 25-27- Pre-Exam Days 27- Thanksgiving Potluck after school for teachers and staff 27- Thanksgiving Family Day 28- Gr. 12 Second Quarter Exam	LAB 8 - TBA 6.3 Heat Transfer and Thermal Equilibrium 6.4 Heat Capacity and Calorimetry 6.5 Energy of Phase Changes
Nov. 29 Invitation for All: The Jubilee Pilgrimage to Taipei (Saturday)	
Week 8 (4 days) (December 1 to 5) 1- First Week of Advent: Lighting of First Advent Candle (During the Monday Assembly) 3- Monthly Career Talk - College Prep 5- Nativity Play (Collaboration with Campus Ministry) 5- Christmas Fair Whole Day	6.6 Introduction to Enthalpy of Reaction 6.7 Bond Enthalpies 6.8 Enthalpy of Formation 6.9 Hess's Law
Week 9 (3 days) (December 8 to 12) 8- Foundation Day Mass, cake ceremony, and Class Party (half day) 8- Solemnity of the Immaculate Conception 8- Second Week of Advent 10- Gr. 12 Advent Immersion 11 and 12- Second Quarter Exam (half day)	TBA
December 13 Invitation for All: Advent Recollection @DIS (Saturday)	
December 15 to January 2 Christmas Break	



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Third Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
<i>January 5- Record Day (No Classes for students)</i>	
Week 1 (4 days) (January 5 to 9) 5- PSAT 8/9 Registration Starts 6- Third Quarter Begins 7- Monthly Career Talk- College Prep 9- New Year Mass at 8:00	LAB 9 - TBA 7.1 Introduction to Equilibrium 7.2 Direction of Reversible Reactions 7.3 Reaction Quotient and Equilibrium Constant
Week 2 (5 days) (January 12 to 16) 16- Club Orientation & Sign Up	7.4 Calculating the Equilibrium Constant 7.5 Magnitude of the Equilibrium Constant 7.6 Properties of the Equilibrium Constant 7.7 Calculating Equilibrium Concentrations
Week 3 (5 days) (January 19 to 23) 19-23- Individual Yearbook Photoshoot for Students 19-23- Career Awareness Week 22- Grade 9 Career Educational trip 23- First Club Meeting for 2nd Semester	LAB 10 - TBA 7.8 Representations of Equilibrium 7.9 Introduction to Le Châtelier's Principle 7.10 Reaction Quotient and Le Châtelier's Principle
Week 4 (5 days) (January 26 to 30) 26- Feast Day of St. Thomas Aquinas/Launching of the Catholic Week 26-28- Aquinas Conference: Science and Faith 26-30- Catholic Week Activities 30- DYM Charity Concert	7.11 Introduction to Solubility Equilibria 7.12 Common-Ion Effect 8.1 Introduction to Acids and Bases 8.2 pH and pOH of Strong Acids and Bases
Week 5 (5 days) (February 2 to 6) 1-4- WASC Mid-Cycle Visit 4- Monthly Career Talk - College Prep 6-7- SUA0 Recollection for MS	LAB 11 - TBA 8.3 Weak Acid and Base Equilibria 8.4 Acid-Base Reactions and Buffers 8.5 Acid-Base Titrations
Week 6 (5 days) (February 9 to 13)	8.6 Molecular Structure of Acids and Bases 8.7 pH and pK_a



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9- Start of New Applicant Enrollment for 1st Semester for SY2025-26 13- PSAT 8/9 Registration Deadline 13- House Valentine's Mini Fair 13- Chinese New Year Celebration	8.8 Properties of Buffers 8.9 Henderson–Hasselbalch Equation
<i>February 16-20 Chinese New Year Holiday</i>	
Week 7 (3 days) (February 23 to 26) 23-26- IOWA Assessments 23- Student Council Application 24-26- Pre-Exam Days	8.10 Buffer Capacity 8.11 pH and Solubility
<i>February 27 Memorial Day Holiday (no classes)</i>	
Week 8 (5 days) (March 2 to 6) 3- Monthly Career Talk - College Prep 6- PSAT 8/9 System Installation and Practice Test	9.1 Introduction to Entropy 9.2 Absolute Entropy and Entropy Change 9.3 Gibbs Free Energy and Thermodynamic Favorability 9.4 Thermodynamic and Kinetic Control
Week 9 (4 days) (March 9 to 13) 13 and 16- Third Quarter Exam (half day)	9.5 Free Energy and Equilibrium 9.6 Free Energy of Dissolution 9.7 Coupled Reactions



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Fourth Quarter Tentative Course Content

Week/Date	Topic/Projects/Assessments
Week 1 (3 days) (March 16 to 20) 16- Third Quarter Exam (half day) 16-20- Faculty & Staff Yearbook Photo 17- Fourth Quarter Begins 18-21- EARCOS Teachers' Conference 19- Lectio Divina and Feast of St. Joseph 20- Parents Learning Community Meeting 20- Kindilympics 20-House Movie Night and Club Fair	9.8 Galvanic (Voltaic) and Electrolytic Cells 9.9 Cell Potential and Free Energy
<i>March 21 (Saturday) Spring Fair</i>	
Week 2 (5 days) (March 23 to 27) 23-27 Student Leaders Applicant Interviews 26- Annual Visit to World Religion Museum Gr. 11 27- Lower School Readers Theatre	LAB 12 - TBA 9.10 Cell Potential Under Nonstandard Conditions 9.11 Electrolysis and Faraday's Law
<i>March 30 to April 6 Easter/Spring Break</i>	
Week 3 (3 days) (April 7 to 10) 7- Spring University Fair 9- Easter Mass 9- Easter Egg Hunt for Lower School Students	AP EXAM REVIEW
Week 4 (5 days) (April 13 to 17) 13 Laudato Si Month Launching (During the Monday Assembly) 13-30 Laudato Si Month Activities 13-17- Class Photo Taking 17- AP Chinese/Japanese Practice Test	AP EXAM REVIEW
Week 5 (5 days) (April 20 to 24)	AP EXAM REVIEW



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20-24 Cultural Awareness Week / Art Exhibit / Earth Week 24- Music Recital 20-24 Student Council Campaign 20-24 AP Mock Exams	
Week 6 (4 days) (April 27 to 30) 27- Student Council Elections 27-30 Senior Project Presentations 28-30 Pre-Exam Days	AP EXAM REVIEW
<i>May 1: Labor Day Public Holiday</i>	
Week 7 (May 4 to 8) 4- May Crowning & Mother's Day Celebration (During the Monday Assembly) 4-14 Final Exams (K, Gr. 5, 8, & 12 Only) 4-15 AP Exams	AP EXAM
Week 8 (May 11 to 15) 13 and 14- Fourth Quarter Exam—Undergraduate (half day) 14-16 Student Leaders Retreat Days	TBA
<i>May 15 Record Day (No Classes for students) Final Deliberation for Graduating/Promoting Classes</i>	
Week 9 (May 18 to 22) 18- Gr. 5 Recollection & Mass 19- Gr. 8 Recollection & Mass 20- Gr. 12 Recollection 20- Baccalaureate Mass (Whole School) 18-21 WIDA Testing 19- Lower School Sports Day / Gr. 6 & 7 School Field Trip 19- Gr. 9 - 11 - "Senior Success Forum: Inspiring	TBA



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the Next Generation" 19-22 Student Clearance Days 21- Middle & High School Sports Day 21- High School Field Trip 22- House Culminating Activity 20-22 Final Deliberation for Non-Graduating Classes 22- Student Leaders One Day Recollection / Turn Over Ceremony	
Week 10 (May 25 to 29) 25- Kindergarten Graduation/Gr. 5 Promotion 26- LS Field Trip 26- Gr. 8 Graduation and Gr. 12 Graduation 27- Pre-Kindergarten & Gr. 1 - 4, 6 & 7, 9-11 Recognition Last Day of School, Report Card 28- Distribution, & Class Party (half day) 29- Last day for Teachers/Staff Meeting	TBA

"Kindling the Light of Faith, Hope, and Love: The Legacy of St. Dominic de Guzmán"