

WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Advanced Inorganic Chemistry - Honors

Course Number: 00335

Course Prerequisites: Completion of Chemistry College Preparatory with an 80% average or higher and successful completion of Algebra II College Preparatory or permission of the principal.

Course Description: This honors course covers the topics of reactions, solutions, kinetics, and equilibrium at a more advanced level than College Preparatory Chemistry. This class meets five class periods per week for one semester the laboratory work will be done during the class period.

Suggested Grade Level: Grades 11-12

Length of Course: One Semester

Units of Credit: .5

PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:

CSPG 34 Chemistry

To find the CSPG information, go to <https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx>

Certification verified by the WCSD Human Resources Department: Yes No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Honors (.5) GPA +3%

Mark Types: Check all that apply.

F – Final Average MP – Marking Period EXM – Final Exam

GPA Type: GPAEL-GPA Elementary GPAML-GPA for Middle Level NHS-National Honor Society

UGPA-Non-Weighted Grade Point Average GPA-Weighted Grade Point Average

State Course Code: 03149

To find the State Course Code, go to <https://nces.ed.gov/forum/sced.asp>, download the Excel file for SCED, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

WARREN COUNTY SCHOOL DISTRICT

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TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Board Approved Textbooks, Software, and Materials:

Title: Chemistry Matter & Change
Publisher: McGraw Hill Education
ISBN #: 978-0-07-677460-9
Copyright Date: 2017
WCSD Board Approval Date: 5/14/2018

Supplemental Materials: [Click or tap here to enter text.](#)

Curriculum Document

WCSD Board Approval:

Date Finalized: 2/28/2018
Date Approved: 5/14/2018
Implementation Year: 2018-2019

SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

WARREN COUNTY SCHOOL DISTRICT

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SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS

Performance Indicator	PA Core Standard and/or Eligible Content	Month Taught and Assessed for Mastery
Determine the precipitate and write the net-ionic equation.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.4	September February
Balance oxidation reduction reactions.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.4	September February
Explain solution formation.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.4	September February
Calculate solution concentration.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.4	September February
Differentiate between the different units of concentration.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.4	September February
Determine a compounds solubility from bond type and polarity.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.1	October March
Calculate vapor pressure, freezing point, and boiling point changes.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.1	October March
Determine molar mass using colligative properties of a compound.	RST 11.2,3,8; WHST11-12.1e,2e; 3.2.12.A.1	October March
Interpret and complete energy curves, showing the activation energy, catalyst path, and overall energy change.	RST 11.2,3,8; WHST11-12.1e,2e	November April
Write a rate law using multiple time and concentration experiments.	RST 11.2,3,8; WHST11-12.1e,2e	November April

WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

Explain the factors that determine reaction spontaneity.	RST 11.2,3,8; WHST11- 12.1e,2e	November April
Calculate an equilibrium constant from equilibrium concentrations.	RST 11.2,3,8; WHST11- 12.1e,2e	December May
Calculate equilibrium concentrations from initial concentrations and the equilibrium constant.	RST 11.2,3,8; WHST11- 12.1e,2e	December May
Know the definitions of acids and bases.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May
Predict the products of acid and base reactions.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May
Determine the species in solution using acid and base strength.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May
Calculate the pH of solutions.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May
Calculate concentrations using titration methods.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May
Predict the species in solution in a weak acid or base solution.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May
Calculate equilibrium concentrations of a weak acid or a weak base, a mixture of acids, and for polyprotic acids.	RST 11.2,3,8; WHST11- 12.1e,2e; 3.2.12.A.4	December May

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ASSESSMENTS

PSSA Academic Standards, Assessment Anchors, and Eligible Content: The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

Formative Assessments: The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include: Analyzing student work, Strategic Questioning

Summative Assessments: The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

Effective summative assessments for this course include: End of chapter tests, Final Exam, Lab Reports