# Scope & Sequence

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| Course Name: Project-Based Research **PEIMS Code:** 12701500\* | | | **Course Credit:** 1.0  **Course Requirements:** This course is recommended for students in Grades 11-12.  **Prerequisites:** None. | |
| **Course Description:** Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings. | | | | |
| **NOTE:** This is a suggested scope and sequence for the course content. This content will work with any textbook or instructional materials. If locally adapted, make sure all TEKS are covered. | | | | |
| **Total Number of Periods**  **Total Number of Minutes**  **Total Number of Hours** | 175 Periods  7,875 Minutes  131.25 Hours\* | \*Schedule calculations based on 175/180 calendar days. For 0.5 credit courses, schedule is calculated out of 88/90 days. Scope and sequence allows additional time for guest speakers, student presentations, field trips, remediation, extended learning activities, etc. | | |
| **Unit Number, Title, and Brief Description** | **# of Class Periods\***  (assumes 45-minute periods)  Total minutes per unit | **TEKS Covered**  **127.12. (c) Knowledge and Skills** | | |
| **Unit 1: Conducting Independent** **Research**  Students will conduct independent research on a topic of their choice focusing on subjects that will yield personal enrichment and/or career development. The project provides students with the opportunity to explore a topic of personal or professional interest and to address the latest trends or issues through focused study and applied research. The project allows students to demonstrate their ability to synthesize and apply the knowledge and skills acquired in their academic program to real-world issues and problems. The final projects should affirm students' ability to think critically and creatively, to solve practical problems, to make reasoned and ethical decisions, and to communicate effectively. | | 70 Periods  3,150 Minutes | (1) The student applies mathematics, science, English language arts, and social studies in an independent study. The student is expected to:  (A) select an original independent study project for personal enrichment and career development;  (B) use reading and research skills to investigate self-selected topics and compile a research portfolio;  (C) collaborate with an interdisciplinary team to develop a project;  (D) identify community, state, national, or international issues to select a project;  (E) conduct a project under the supervision of a mentor;  (F) use scientific methods of investigation;  (G) apply statistical concepts to analyze data, evaluate results, and draw conclusions;  (H) compare and contrast findings in a coherent and organized manner  (4) The student designs and develops a research project related to their career interests. The student is expected to:  (A)identify processes to be used in the independent research project; and  (B) use resources to complete a project | |
| **Unit 2: Communication Skills**  This unit will enhance students’ communication skills, focusing on learning the aspects of interpersonal communication skills required within a professional setting. Students will focus on verbal and nonverbal communication that occurs between employees, employers, customers, and/or clients within business and industry. | 10 Periods  450 Minutes | (2) The student uses verbal and nonverbal communication skills. The student is expected to:  (A) listen actively and effectively in group discussions;  (B) use a variety of resources to access, process, and collect data relevant to the project; and  (C) document the time and cost to accomplish the project goal | | |
| **Unit 3: Technology in the Workplace**  During this unit, students will utilize the types of technology required to perform workplace tasks in a professional manner. Students will understand how computerized systems are integral to businesses’ effectiveness and completing workplace tasks with accuracy and efficiency. | 15 Periods  675 Minutes | (5) The student uses technology needed to complete a research project. The student is expected to:  (A) use search engines, databases, and other digital electronic tools effectively to locate information;  (B) evaluate quality, accuracy, completeness, reliability, and currency of information from any source;  (C) prepare, organize, and present independent research and mentor experiences | | |
| **Unit 4: Professional Ethics**  Students will understand the professional ethics legal responsibilities pertaining to business and industry. Students will analyze ethical dilemmas in a variety of workplace situations to demonstrate professional reasoning through an ethical and moral lens. Students will research laws that govern workplace practices across different industries. | 5 Periods  225 Minutes | (3) The student demonstrates professional ethical behavior standards and legal responsibilities. The student is expected to:  (A) analyze ethical challenges determined by factors such as cost, new and emerging technologies, and allocation of limited resources; and  (B) review legal issues related to the research project | | |
| **Unit 5: Progress Monitoring**  Students will devise a plan for independent research and submit a project proposal for approval prior to the start of their research. Students will be assisted through the completion of this project through cooperation and collaboration among faculty members to ensure students have the resources needed to complete the project. Students will be able to monitor the progress of the project through weekly progress reports, goal setting, self-evaluations, and feedback analysis to understand if adjustments need to be made. | 70 Periods  3,150 Minutes | (5) The student uses technology needed to complete a research project. The student is expected to:  (D) receive constructive criticism and revise personal views when valid evidence warrants; and  (6) The student evaluates the research project. The student is expected to:  (A) create weekly progress reports that address time management and goal setting;  (B) meet periodically with the teacher for conferences about progress, concerns, successes, and needs;  (C) conduct self-evaluations of presentations;  (D) compose written reflections regarding strengths and weaknesses as well as areas of growth;  (E) analyze the feedback from the panel of experts; and  (F) submit project results and analysis to mentors and experts | | |
| **Unit 6: Culminating Presentation**  Students will prepare a formal presentation of their research information and findings before a panel of experts; the ideal panel would consist of community members arranged by the school to be held in the evening to accommodate work schedules for those outside of the school. Student presentations will consist of the student’s purpose and reasons for choosing the topic, new information gained, and plans for pursuing additional information about the subject. Students will share any tangible evidence/application of the skills and knowledge acquired from the project. | 5 Periods  225 Minutes | (1) The student applies mathematics, science, English language arts, and social studies in an independent study. The student is expected to:  (I) present the independent research project to an appropriate audience of experts in the field using a variety of technologies  (5) The student uses technology needed to complete a research project. The student is expected to:  (C) prepare, organize, and present independent research and mentor experiences;  (E) prepare and present research information in appropriate formats to a panel of experts in the field | | |