**Project Charter: ABC University College Courses Application**

Project Name: ABC University College Courses Application

Project Owner: Shannon Musgrave

Created: June 2, 2025

Version: 1.0

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| Item | Response |
| Business Case/Vision | The ABC University College Courses Application addresses the need for an efficient, scalable system to manage course information for academic institutions. By implementing a C++ application with a binary search tree (BST) data structure, the system enables rapid searching, insertion, and deletion of course records, replacing inefficient manual or linear data management methods. The application supports ABC University’s registrar and academic staff by providing a reliable tool to organize course data (e.g., course ID, name, credits, instructor), ensuring data persistence and user-friendly interaction. This solution reduces administrative overhead, minimizes errors, and serves as a cost-effective alternative to commercial course management systems. |
| Mission Statement | The mission of the ABC University College Courses Application is to provide a dependable and efficient platform for managing course information using a binary search tree. By implementing a C++ solution with dynamic data management, file-based persistence, and an intuitive interface, the application ensures accurate course tracking, fast data retrieval, and ease of use for university staff, supporting ABC University’s commitment to academic excellence and operational efficiency. |
| Project Team (members and roles) | Project Owner: Shannon Musgrave  Lead Developer: Shannon Musgrave  Data Specialist: TBD  UI/UX Designer: TBD  Quality Assurance: TBD |
| Success Criteria | Implements a binary search tree to manage course records with fields: Course ID (unique key), Course Name, Credits, Instructor Name.  Supports CRUD operations (create, read, update, delete) for course data with O(log n) average-case performance for search, insert, and delete.  Persists course data to a file (e.g., CSV or binary format) to ensure data retention across sessions.  Provides a user interface (console or basic GUI) for staff to interact with the BST.  Finished by deadline. |
| Key Project Risks | Binary tree imbalancing – High  Memory leaks – High  Data validation – Medium  File I/O errors - Low |
| Rules of Behavior (values and principles) | Open communication  Respect all ideas  Prioritize quality  Take ownership of responsibilities, tasks, deadlines |
| Communication Guidelines | Utilize Microsoft Teams group chat, avoid sidebars  Respond to requests within 1 business day  Disagree respectfully with others |