# CS 255 Module Two Assignment

## Functional Requirements

| **Functional Requirement** | **Rationale for Requirement** | **Source(s), APA format** |
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| User Authentication and Access Control | Only authorized users, including students, faculty, and administrators, should be able to log in for security access. | The Role of Authentication and Authorization in Access Control  Shoemaker, Phillip  August 07, 2023 |
| Course Management | This requirement is essential for instructors to organize, and update course content, including lectures and assignments, making them accessible to students. | (2023, January 1). Best Online CMS Courses & Programs. EdX. https://www.edx.org |
| Student Progress Tracking | LMS allows teachers to capture and evaluate learning data and measure student progress and growth. | (2023, October 24). How to track student progress. Jotform Education. https://www.jotform.com/ |
| Collaboration Tools | LMS would include tools such as discussion forums, messaging, and video conferencing to facilitate interactions between students and instructors. | Bika, N. (n.d.). 15 collaboration tools for productive teams. Workable Technology. https://resources.workable.com/ |
| Reporting | LMS would include analytics and reporting features, enabling administrators and instructors to gain insights into student engagement, course effectiveness, and system performance. | (n.d.). Analytics vs Reporting: Key Differences & Importance. Question Pro. https://www.questionpro.com/ |
| Assessment and Grading System | LMS should support various types of assessments (quizzes, exams, essays) and allow instructors to efficiently grade and provide feedback to students. | Adams, D. (n.d.). Effective Grading: A Tool for Learning and Assessment. Effective Grading. https://cla.auburn.edu/ |

## Nonfunctional Requirements

| **Nonfunctional Requirement** | **Rationale for Requirement** | **Source(s), APA format** |
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| Performance | The LMS will provide fast response times and smooth performance, users can access content and perform actions without experiencing delays or lags. | Microsoft (2020, November 5). Optimizing Performance and Responsiveness. Microsoft Ignite. ttps://learn.microsoft.com |
| Security and Data Privacy | The LMS must adhere to industry standards and best practices to ensure data security, user privacy, and protection against potential threats and breaches. | Rahnama, H., Pentland, A., (2022, February 25). The New Rules of Data Privacy. Harvard Business Review. https://hbr.org/ |
| Accessibility | The LMS should be accessible to users with diverse needs, including those with disabilities. | Rush , S. (2016, May 6). Accessibility, Usability, and Inclusion. W3. https://www.w3.org/ |
| Reliability and Availability | The LMS must be highly reliable and available, minimizing downtime, and ensuring that users can access the system whenever needed. | Raza , M. (2020, May 13). Reliability vs Availability: What’s The Difference? DevOps Blog. https://www.bmc.com |
| Integration | The LMS should be designed to seamlessly integrate with these systems, allowing for smooth data exchange. | Roberts, B. (2023, March 16). Integration vs Interoperability: What's the Difference? SIS Operate Smart. https://blog.sisfirst.com |
| Scalability | The LMS should be designed to handle a scalable and growing user base. | Microsoft (n.d.). Design applications for scaling. Microsoft Ignite. https://learn.microsoft.com/ |

## Assumptions

| **Assumption** | **Rationale for Requirement** | **Source(s), APA format** |
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| Hardware and Network Infrastructure | It is assumed that the university has a reliable hardware and network infrastructure to support the LMS. | (n.d.). The Components of Network Infrastructure and Why It Matters. Restore Point. https://www.restorepoint.com/ |
| Training | It is assumed that users, including students, faculty, and administrators, will receive training on how to use the LMS effectively. | Meij, S. (n.d.). End User Training: How to Get It Right from Start to Finish. Go Skills. www.goskills.com |

## Limitations

| **Limitation** | **Rationale for Requirement** | **Source(s), APA format** |
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| Scalability | The LMS may have scalability limitations, particularly during peak usage periods, which could impact system performance. | Hayes, A. (2023, July 28). Scalability: What a Scalable Company is, and Examples. Scalability Economics. www.investopedia.com |
| Compatibility | The LMS may have compatibility limitations with certain operating systems, browsers, or devices, which could affect user accessibility. | Vats, I. (2023, October 25). Learning Management System (LMS) Requirements and Capabilities Checklist. LMS Requirements. ttps://www.selecthub.com |