# CS 255 Module Two Assignment

## Functional Requirements

| **Functional Requirement** | **Rationale for Requirement** | **Source(s), APA format** |
| --- | --- | --- |
| User Management | The LMS must allow for the creation, deletion, and modification of user accounts with different roles (e.g., students, instructors, and administrators) to ensure smooth user interaction and management. | Akacha, S. A., & Awad, A. I. (2023). \*Sustainability, 15\*(19). https://doi.org/10.3390/su151914132 |
| Course Content Management | Instructors should be able to upload, organize, and manage course materials such as videos, assignments, and reading resources, providing a comprehensive educational experience. | Chuenyindee, T., et al. (2022). \*Work, 73\*(1), 41-58. https://doi.org/10.3233/WOR-220015 |
| Gradebook Integration | The system must allow instructors to input and calculate grades, which can be accessed by students. This helps track progress and provides transparency in evaluation. | Algamdi, S. A. (2024). \*UNT Digital Library\*. https://digital.library.unt.edu/ark:/67531/metadc2356134/ |
| Assignment Submission | Students should be able to submit assignments through the LMS, with options for deadlines and resubmissions, ensuring structured learning. | Chuenyindee, T., et al. (2022). \*Work, 73\*(1), 41-58. https://doi.org/10.3233/WOR-220015 |
| Discussion Forums | The LMS should support discussion boards to foster communication between students and instructors, encouraging collaboration and engagement. | Akacha, S. A., & Awad, A. I. (2023). \*Sustainability, 15\*(19). https://doi.org/10.3390/su151914132 |
| Real-time Communication Tools | Chat functions or video conferencing options should be integrated to support synchronous communication and live instruction. | Algamdi, S. A. (2024). \*UNT Digital Library\*. https://digital.library.unt.edu/ark:/67531/metadc2356134/ |

## Nonfunctional Requirements

| **Nonfunctional Requirement** | **Rationale for Requirement** | **Source(s), APA format** |
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| Security | The system should enforce secure logins and use encryption to protect user data, including sensitive information like grades and personal details. | Akacha, S. A., & Awad, A. I. (2023). \*Sustainability, 15\*(19). https://doi.org/10.3390/su151914132 |
| Scalability | The LMS must be scalable to handle thousands of users simultaneously without performance degradation as the university grows. | Algamdi, S. A. (2024). \*UNT Digital Library\*. https://digital.library.unt.edu/ark:/67531/metadc2356134/ |
| Usability | The interface should be user-friendly for all types of users (students, instructors, and admins), ensuring smooth interaction and minimizing training time. | Chuenyindee, T., et al. (2022). \*Work, 73\*(1), 41-58. https://doi.org/10.3233/WOR-220015 |
| Performance | The system should load pages and process actions quickly, minimizing downtime to ensure a seamless user experience. | Chuenyindee, T., et al. (2022). \*Work, 73\*(1), 41-58. https://doi.org/10.3233/WOR-220015 |
| Cross-platform Compatibility | The LMS should be accessible from various devices and operating systems, including mobile phones, tablets, and desktops. | Algamdi, S. A. (2024). \*UNT Digital Library\*. https://digital.library.unt.edu/ark:/67531/metadc2356134/ |
| Accessibility | The system must comply with accessibility standards (e.g., WCAG) to ensure that users with disabilities can interact with the LMS effectively. | Akacha, S. A., & Awad, A. I. (2023). \*Sustainability, 15\*(19). https://doi.org/10.3390/su151914132 |

## Assumptions

| **Assumption** | **Rationale for Requirement** | **Source(s), APA format** |
| --- | --- | --- |
| Internet Access | It is assumed that all users will have stable internet access to participate in online classes, submit assignments, and interact with course materials. | Chuenyindee, T., et al. (2022). \*Work, 73\*(1), 41-58. https://doi.org/10.3233/WOR-220015 |
| System Training | Users (especially instructors) will be provided with initial training on how to use the system, ensuring effective operation from the start. | Algamdi, S. A. (2024). \*UNT Digital Library\*. https://digital.library.unt.edu/ark:/67531/metadc2356134/ |

## Limitations

| **Limitation** | **Rationale for Requirement** | **Source(s), APA format** |
| --- | --- | --- |
| Budget Constraints | The system design will be limited by financial constraints, affecting the extent of features that can be integrated into the LMS. | Akacha, S. A., & Awad, A. I. (2023). \*Sustainability, 15\*(19). https://doi.org/10.3390/su151914132 |
| Data Storage Limitations | There may be limitations on the amount of data the LMS can store, requiring regular data backups and archiving of old content. | Algamdi, S. A. (2024). \*UNT Digital Library\*. https://digital.library.unt.edu/ark:/67531/metadc2356134/ |