ITEC 3700- CMS Requirements Definition Assignment

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### DOCUMENT PURPOSE

*The goal of this document is to provide a detailed course management system for instructors and students. It will explain the purpose and features of the system, and the list of functional and nonfunctional requirements. It will also expatiate on each of the functional requirements with reference to the business rules of the organization, user input, and expected output.*

### SCOPE

To ensure this system is created in a timely manner with full functionality, we shall only be focusing on thirteen of the highly needed functional features of the application. We shall also focus on two non-functional features. This is to make sure that all deliverables are achieved within the expected time and budget.

### GENERAL OVERVIEW OF THE CMS FUNCTIONALITY

The Course Management System is an application that will be used primarily by students and faculty members of this organization. It also may be accessed by certain non-teaching members of the organization for administration and approval purposes. The application should allow the creation of course sections and allow the activation or deactivation of any or all these course sections — each section has the conditions that need to be met before it can be registered by students.

After course sections have been created and activated, students ought to be able to view them, and register for them if they meet the conditions for registration of each specified course section.

Furthermore, the application should allow teaching faculty members to select which of the course section they intend to teach for every semester, view the number of students who have added/selected their section of a course for that semester, and also update and publish the grade of these students accordingly.

### LIST OF THE FUNCTIONAL REQUIREMENTS

## COURSE MANAGEMENT SUBSECTION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | REQUIREMENT NAME | TRACKING ID | PRIORITY | STATUS |
| 1. | Create course | MS01 | 1 | Open |
| 2. | Edit course details | MS02 | 1 | Open |
| 3. | Activate or deactivate course | MS03 | 1 | Open |

## GRADING SUBSECTION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | REQUIREMENT NAME | TRACKING ID | PRIORITY | STATUS |
| 1. | Report Midterm Grades | GS01 | 2 | Open |
| 2. | Report Final Grades | GS02 | 2 | Open |

## SCHEDULING SUBSECTION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | REQUIREMENT NAME | TRACKING ID | PRIORITY | STATUS |
| 1. | Establish Course Section | SS01 | 1 | Open |
| 2. | Appoint Instructor | SS02 | 2 | Open |
| 3. | Appoint Building and Room Number | SS03 | 2 | Open |
| 4. | Appoint Date and time | SS04 | 1 | Open |

## REGISTRATION SUBSECTION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | REQUIREMENT NAME | TRACKING ID | PRIORITY | STATUS |
| 1. | Look up class section | RS01 | 1 | Open |
| 2. | Add/register course section | RS02 | 2 | Open |
| 3. | Drop/unregister course section | RS03 | 1 | Open |
| 4. | Withdraw from active course section | RS04 | 1 | Open |

## **DEFINITION OF FUNCTIONAL REQUIREMENT LIST**

#### Course Management Subsection

|  |  |
| --- | --- |
| Title | Course Management Subsection |
| Requirement Name | Create Course |
| Tracking ID | MS01 |
| 1. Description:   Administrative faculty members and designated members of registrars’ office can create courses according to the several disciplines within each faculty of the organization.   1. Input Data:    1. CRN    2. Course description    3. Course co/prerequisites 2. Business Rules:    1. Only designated senior level faculty administrative staff, and registrar’s office can create courses.    2. Every course has a unique CRN (Course Registration Number), CRN cannot be edited or changed once assigned.    3. Each course is managed by a discipline, the discipline also provides instructions related to the course. All discipline managing courses belong to a school. Example: An algebra course— Math 1357 belongs to the discipline of mathematics, and mathematics is administered by the School of Science and Technology. 3. Output Data:    1. Display “the created course, has been successfully created.” 4. Outstanding Requirement Issues:    1. None Currently | |
| Requirement Name | Edit course details |
| Tracking ID | MS02 |
| 1. Description:   Allows details of created courses to be edited, changed, or removed individually.   1. Input Data:    1. Edit course 2. Business Rules:    1. The CRN details of a course cannot be edited once assigned.    2. Only designated senior level faculty administrative staff, and registrar’s office can edit details of courses. 3. Output Data:    1. Displays “the selected details, of the selected course has been successfully changed and saved.” 4. Outstanding Requirement Issues:    1. None currently. | |
| Requirement Name | Activate or deactivate course |
| Tracking ID | MS03 |
| 1. Description:   Allows created courses to be made available for offer and registration. When activated, Allows created course-sections to be viewed, accessed, and registered by students and instructors. When deactivated, prevents students and professors from viewing, accessing, or registering created course-sections.   1. Input Data: 2. Activate course 3. Deactivate course      1. Business Rules: 2. Only designated senior level faculty administrative staff, and registrar’s office can activate or deactivate courses. 3. Output Data: 4. When activated, display “the selected course, has been activated, and available for viewing and registration. 5. When deactivated, display “the selected course, has been deactivated, and no longer available for viewing and registration. 6. Outstanding Requirement Issues: 7. None currently. | |

#### Grading Subsection

|  |  |
| --- | --- |
| Title | Grading Subsection |
| Requirement Name | Report Midterm Grades |
| Tracking ID | GS01 |
| 1. Description:   Allows instructors to enter midterm grades into the system each semester for each student registered for each course section. Students will be able to check midterm grades any time after the grade release date has been issued.   1. Input Data:    1. Enter available date    2. No longer available date    3. Release student grade date. 2. Business Rules:    1. Instructors must enter midterm grades into the system each semester for each student registered for each course section before due date.    2. Students can check their midterm grades in the course sections they are scheduled to for each semester.    3. Only instructors can enter midterm grades into the system for each student registered for the course section for each the semester. 3. Output:    1. Student receives midterm grades when registered for the course section for each semester.    2. Students can check midterm grades any time for any registered course section for each semester.    3. Students who withdrawn from a registered course section for each semester will automatically receive a grade of ‘W’ but after which the instructor must enter a final grade of ‘WP’ for withdrawal while passing, or a grade of ‘WF’ for withdrawal while failing. 4. Outstanding Requirement Issues:    1. None Currently. | |
| Requirement Name | Report Final Grades |
| Tracking ID | GS02 |
| 1. Description:   Allows instructors to enter final grades into the system each semester for each student registered for each course section. Students will be able to check final grades any time after the grade release date has been issued.   1. Input Data:    1. Enter available date    2. No longer available date    3. Release student grade date. 2. Business Rules:    1. Instructors must enter final grades into the system each semester for each student registered for each course section before due date.    2. Students can check their final grades in the course sections they are scheduled to for each semester.    3. Only instructors can enter final grades into the system for each student registered for the course section during the semester. 3. Output Data:    1. Student receives final grade when registered for the course section for each semester.    2. Students can check final grades any time for any registered course section for each semester.    3. Students who withdrawn from a registered course section for each semester will automatically receive a grade of ‘W’ but after which the instructor must enter a final grade of ‘WP’ for withdrawal while passing, or a grade of ‘WF’ for withdrawal while failing. 4. Outstanding Requirement Issues:    1. None Currently. | |

#### Scheduling Subsection

|  |  |
| --- | --- |
| Title | Scheduling Subsection |
| Requirement Name | Establish Course Section |
| Tracking ID | SS01 |
| 1. Description:   When a course has been established, course sections are opened in every semester, and may be scheduled only once or many times depending on the demand.   1. Input Data:    1. Course Number    2. Section Number    3. CRN 2. Business Rules:    1. A course must be established to schedule course sections in each semester.    2. Courses may be scheduled, but not release every course section for registration.    3. Open course sections are visible to students registering for courses, while unopened course sections are not.    4. The scheduler must monitor the registrations.    5. When a course section becomes filled for each semester, the scheduler must have the option of opening one or more of the remaining scheduled course section. 3. Output Data:    1. Students can register for open course sections in each semester, while unopened sections will not.    2. If an open course section is full for active registration, the course section will become unopened for students during the semester. 4. Outstanding Requirement Issues:    1. None Currently. | |
| Requirement Name | Appoint Instructor |
| Tracking ID | SS02 |
| 1. Description:   An instructor is assigned to teach specified course sections for any given semester.   1. Input Data:    1. Instructor Name 2. Business Rules:    1. A course must be established to schedule course sections in each semester.    2. A course section may be scheduled for each semester without determining the specific instructor.    3. A course section must not be scheduled if there is any conflict in the dates and times with another scheduled course section, a conflict with a building and room number or instructor. 3. Output Data:    1. Students can register for any given open course sections in each semester, while unopened sections will not.    2. Students can check the instructor name assigned for each open course section for each semester. 4. Outstanding Requirement Issues:    1. None Currently. | |
| Requirement Name | Appoint Building and Room Number |
| Tracking ID | SS03 |
| 1. Description:   A building and room number is assigned to every given course section for each semester.   1. Input Data:    1. Building    2. Room Number 2. Business Rules:    1. A course must be established to schedule course sections in each semester.    2. Each course section may be scheduled for each semester without determining the building and room number.    3. A course section must not be scheduled if there is any conflict in the dates and times with another scheduled course section, a conflict with a building and room number or instructor. 3. Output Data:    1. Students can register for any given open course sections in any semester, while unopened sections will not.    2. Students can check the building and room number for each open course section for each semester. 4. Outstanding Requirement Issues:    1. None Currently. | |
| Requirement Name | Appoint Date and Time |
| Tracking ID | SS04 |
| 1. Description:   A date and time are assigned to every given course section for each semester.   1. Input Data:    1. Start date    2. End date    3. Time 2. Business Rules:    1. Course section must be established to schedule in any given semester.    2. Date, and start and end time of a course section must be determined prior to scheduling a specific course section.    3. A course section must not be scheduled if there is any conflict in the dates and times with another scheduled course section, a conflict with a building and room number or instructor. 3. Output Data:    1. Students can register for any given open course sections in any semester, while unopened sections will not.    2. Students can check the start and end date, and time for each open course section for each semester. 4. Outstanding Requirement Issues:    1. None Currently. | |

#### Registration Subsection

|  |  |
| --- | --- |
| Title | Registration Subsection |
| Requirement Name | Look up class section |
| Tracking ID | RS01 |
| 1. Description:   Students are able to view all established and active course sections for selected semester.   1. Input Data:    1. Select a semester    2. Select a subject    3. Select course section 2. Business Rules:    1. To be able to view course sections, a student must be currently enrolled with active 900- number and user name.    2. S/he may have one of the following academic statuses. Namely, good standing, academic warning, or academic probation.    3. A student with academic suspension, academic dismissal, or student success expulsion can also view course section, but is prohibited from registering until the status is changed.    4. Each course-section has credit weight, co/pre-requisites, day and time of meeting, maximum seat capacity, instructor, and room/ building number.    5. While viewing course-sections only, the instructor and room/ building number may not be available for viewing. Other course-section details must be available. 3. Output Data:    1. Student should see a page that lists all available class-sections for the particular course selected. 4. Outstanding Requirement Issues:    1. None Currently. | |

|  |  |
| --- | --- |
| Requirement Name | Add/register course section |
| Tracking ID | RS02 |
| 1. Description:   Allow students to select a specific course section of choice for registration for a specific semester.   1. Input Data:    1. Add course section 2. Business Rules:    1. To be able to add/register, a student must be currently enrolled with active 900- number and user name.    2. S/he may have one of the following academic statuses. Namely, good standing, academic warning, or academic probation.    3. A student with academic suspension, academic dismissal, or student success expulsion is prohibited from registering even if they have active 900-number and username.    4. The registration start date for students is determined by their academic classification. Seniors and juniors are designated a date by the registrar’s office two weeks ahead of sophomores and freshmen. These dates are sent directly via email to all students sixty days before the beginning of each subsequent semester.    5. Each course-section has credit weight, co/pre-requisites, day and time of meeting, maximum seat capacity, instructor, room/ building number.    6. The co-requisite of any course can be registered alongside that particular course at the moment of registration, while a course’s pre-requisites must have been registered and passed at least a semester before current.    7. Different course-sections with same date, or time, or room cannot be registered by same student.    8. The maximum capacity should gradually reduce as more students register. When the maximum capacity reaches zero (0), no students should be allowed to register for such section any longer.    9. A student can register maximum of seventeen (17) credits when in good standing. Otherwise, s/he can only register maximum of twelve (12) credits. In exceptional cases, a student may register more than seventeen (17) credits only with explicit administrative consent. 3. Output Data:    1. Display “the selected course-section, has been added to your registered courses for current semester.” A list of actively registered courses should also be displayed.    2. Display “the selected course-section, cannot be added to your registered courses at the moment.” A list of all other actively registered courses should also be displayed. 4. Outstanding Requirement Issues:    1. None Currently. | |

|  |  |
| --- | --- |
| Requirement Name | Drop/unregister course section |
| Tracking ID | RS03 |
| 1. Description:   Allow student to remove one or all course-section(s), from a list of previously registered courses.   1. Input Data:    1. Drop course section 2. Business Rules:    1. To be able to drop/unregister, a student must be currently enrolled with active 900- number and user name.    2. S/he must currently be actively enrolled in the course-section s/he wished to drop.    3. The registration drop date for each semester is determined by the registrar’s office and is available in the organization’s calendar. No drop is allowed after the designated drop-date has passed.    4. A student can re add a dropped course section or an entirely new one, as long as s/he has not exceeded maximum credit allowed.    5. A student can register maximum of seventeen (17) credits when in good standing. Otherwise, s/he can only register maximum of twelve (12) credits. In exceptional cases, a student may register more than seventeen (17) credits only with explicit administrative consent. 3. Output Data:    1. Display “the selected course-section,” has been dropped from your registered courses for current semester.” A list of currently all other actively registered courses should also be displayed.    2. Display “the selected course-section, cannot be dropped from your registered courses at the moment.” A list of all actively registered courses should also be displayed. 4. Outstanding Requirement Issues:    1. None Currently. | |

|  |  |
| --- | --- |
| Requirement Name | Withdraw from active course section |
| Tracking ID | RS04 |
| 1. Description:   Students are able to withdraw from one or all course-section(s), from a list of previously registered courses.   1. Input Data:    1. Withdraw course 2. Business Rules:    1. To be able to withdraw from a course sections, a student must be currently enrolled with active 900- number and user name.    2. S/he also must currently be actively enrolled in the course section she wishes to withdraw from.    3. The last date of withdrawal for each semester is determined by the registrar’s office and is available in the organization’s calendar. No withdrawal is allowed after the designated date has passed.    4. A student cannot re-add a course section s/he has withdrawn from. If a student is currently passing such course section, they get a “WP” grade. Otherwise, they get a “WF” grade. 3. Output Data:    1. Display “You have withdrawn from the selected course-section, for the current semester.”    2. A list of all other actively registered courses should also be displayed. 4. Outstanding Requirement Issues:    1. None Currently. | |

## **Non-Functional Requirements**

#### Performance

The student must be able to search and look up course sections in less than 2 seconds.

Any interaction between the student/instructor and the system should not exceed 5 seconds.

#### Scalability

The system must be able to handle the load for all course sections for every semester, especially when many students and instructors access the course management system.

## **Missing Requirements/Outstanding Issues**

None currently.