3.1 Functional Requirements - Use cases

Editors: Ricardo, Liuai, Anna

Should we put Administrator as System Administrator? Also should we write Faculty Administrator (vs Faculty Admin)?

Functional Requirements

1. User

1.1. All users can log in

1.2. All users can log out

1.3. All users can update their personal information

1. System Administrator

2.1. System administrator can create new users

2.1.1. System administrator can grant new users specific permissions

2.2. System administrator can view existing users

2.3. System administrator can update existing users’ information

2.3.1. System administrator can change users’ permissions

2.4. System administrator can remove existing users from the system

1. Faculty Administrator

3.1. Faculty administrator can create new courses

3.1.1. Faculty administrator can assign requisites and requirements to courses

3.2. Faculty administrator can view existing courses

3.3. Faculty administrator can update existing courses’ information

3.3.1. Faculty administrator can change course requisites and requirements

3.4. Faculty administrator can remove existing courses from the system

1. Professor

4.1. Professor can view his or her course schedule

4.2. Professor can update students’ grades

1. Student

5.1. Student can view his or her current schedule

5.2. Student can review his or her course history

5.3. Student can search for courses

5.3.1. Student can view a course’s description

5.4. Student can generate schedules

5.4.1. Student can choose course preferences to generate schedules

5.4.2. Student can save generated schedules

5.4.3. Student can view saved schedules

5.4.4. Student can finalize a schedule

5.5. Student can print a schedule

Order of tables:

|  |  |
| --- | --- |
| 1 | Login |
| 2 | Logout |
| 3 | Update Personal Info |
| 4 | Review Course History |
| 5 | View Degree Audit |
| 6 | Choose Course Preferences |
| 7 | Search Courses |
| 8 | View Course Description |
| 9 | Generate Schedules |
| 10 | Generate Sequences |
| 11 | Save schedule |
| 12 | View Saved Schedules |
| 13 | View Student Schedule |
| 14 | Print Schedule |
| 15 | Create Course |
| 16 | Remove Course |
| 17 | Update Course |
| 18 | Create User |
| 19 | Remove User |
| 20 | Update User |
| 21 | View User |
| 22 | Update Course Grades |
| 23. | View Professor Schedule |

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| UC01 - Login | |
| Risk Assessment | 5/5 |
| Importance | 5/5 |
| Actor(s) | Student, Teacher, Faculty Admin, System Admin |
| Description | Validate user credentials and allow user specific privileges to the system. |
| Basic Flow | 1. User visits scheduler site 2. User enters credentials 3. Website redirects user to main page |
| Pre-condition | User is not logged in. |
| Post-condition | Success: User is logged in.  Fail: No access granted. User is not logged in and remains in login page. |

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| UC02 - Logout | |
| Risk Assessment | 5/5 |
| Importance | 3/5 |
| Actors | Student, Teacher, Faculty Admin, System Admin |
| Description | Terminate the session of the user interacting with the system, no longer provide the user his or her personal data. |
| Basic Flow | 1. User logs out 2. Website redirects user to login page |
| Pre-condition | User is logged in. |
| Post-condition | Success: User is logged out.  Fail: User is still logged in. |

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| UC03 - Update Personal Information | |
| Risk Assessment | 5/5 |
| Importance | 5/5 |
| Actors | Student, Teacher, Faculty Admin, System Admin |
| Description | Update user profile information. |
| Basic Flow | 1. User fills in personal information in specified fields 2. User saves the newly entered information |
| Pre-condition | User is viewing personal information page. |
| Post-condition | Success: User’s information is changed.  Fail: User’s information is not changed. |

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| UC04 - Review Course History | |
| Risk Assessment | 2/5 |
| Importance | 4/5 |
| Actors | Student |
| Description | Review student’s course history which includes the semesters taken and student’s grades. |
| Basic Flow | 1. User requests to view course history 2. System redirects user to course history page |
| Pre-condition | User is logged in. |
| Post-condition | Success: User sees course history.  Failure: User does not see course history. |

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| UC05 - View Degree Audit | |
| Risk Assessment | 2/5 |
| Importance | 2/5 |
| Actors | Student, Faculty Admin |
| Description | Review list of student’s completed courses and remaining courses to be taken. |
| Basic Flow | 1. User requests to view student’s degree audit 2. System redirects student to degree audit page |
| Pre-condition | User is logged in to student’s account. |
| Post-condition | Success: User sees course audit list.  Fail: User does not see course audit list. |

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| UC06 - Choose Course Preferences | |
| Risk Assessment | 2/5 |
| Importance | 3/5 |
| Actors | Student, Faculty Admin |
| Description | Edit preferences, add constraints such as class time preference and semester preferences. |
| Basic Flow | 1. User chooses day, time, or semester preferences 2. System saves user’s preferences |
| Pre-condition | User is logged in to student’s account. |
| Post-condition | Success: User preferences are saved.  Fail: User preferences are not saved. |

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| UC07 - Search Courses | |
| Risk Assessment | 1/5 |
| Importance | 5/5 |
| Actors | Student, Faculty Admin |
| Description | Search for a specific course by course name or by department. |
| Basic Flow | 1. User enters search field information 2. User requests to view courses matching query 3. System redirects user to found courses page |
| Pre-condition | User is logged in. |
| Post-condition | Success: Find course matching to query.  Fail: No course found that matches query. |

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| UC08 - View Course Description | |
| Risk Assessment | 1/5 |
| Importance | 4/5 |
| Actors | Student, Faculty Admin |
| Description | See course instructor, sections, session time, requisites. |
| Basic Flow | 1. User selects the course he or she would like to view 2. System displays the selected course’s description |
| Pre-condition | User is logged in and course is existent. |
| Post-condition | Success: Course information is displayed.  Fail: Course information is not displayed. |

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| UC09 - Generate Schedules | |
| Risk Assessment | 1/5 |
| Importance | 5/5 |
| Actors | Student |
| Description | User can view the different semesterly schedules offered to him or her. |
| Basic Flow | 1. User chooses course preferences 2. User requests to generate schedule for a semester. 3. System displays semester schedule. |
| Pre-condition | User is logged in and has chosen the time frame for which to display schedules and entered his/her preferences. |
| Post-condition | Success: One or more schedules are generated according to user’s specifications.  Fail: No schedules are generated. |

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| UC10 - Generate Sequences | |
| Risk Assessment | 1/5 |
| Importance | 5/5 |
| Actors | Student |
| Description | User can view the different course sequences offered for their remaining semesters until graduation. |
| Basic Flow | 1. User chooses course preferences 2. User requests to generate schedule for a semester. 3. System displays semester schedule |
| Pre-condition | User is logged in and has chosen the time frame for which to display schedules and entered his/her preferences. |
| Post-condition | Success: One or more sequences are generated according to user’s specifications.  Fail: No sequences are generated. |

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| UC11 - Save schedule | |
| Risk Assessment | 1/5 |
| Importance | 4/5 |
| Actors | Student |
| Description | User can save generated schedule. |
| Basic Flow | 1. User selects schedule to save 2. Schedule is saved in user’s profile |
| Pre-condition | User is logged in and sees at least one generated schedule. |
| Post-condition | Success: Schedule is saved to user profile.  Fail: Schedule is not saved to user’s profile. |

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| UC12 - View Saved Schedules | |
| Risk Assessment | 1/5 |
| Importance | 3/5 |
| Actors | Student |
| Description | Student views previously saved schedules that were generated from scheduler. |
| Basic Flow | 1. Student runs scheduler 2. Student saves schedule(s) 3. Student requests to view their saved schedules 4. System displays student’s saved schedules |
| Pre-condition | Student is logged in. |
| Post-condition | Success: Student sees saved schedules.  Fail: Student does not see saved schedule page. |

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| UC13 - View Student Schedule | |
| Risk Assessment | 1/5 |
| Importance | 5/5 |
| Actors | Student |
| Description | Student sees their current semester schedule. |
| Basic Flow | 1. Student navigates to their current semester schedule. 2. System displays current schedule. |
| Pre-condition | Student is logged in. |
| Post-condition | Success: Student sees current schedule.  Fail: Student does not see a current schedule. |

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| UC14 - Print Schedule | |
| Risk Assessment | 1/5 |
| Importance | 1/5 |
| Actors | Student |
| Description | User prints their current schedule, generated schedule, or saved schedule. |
| Basic Flow | 1. User requests to print his/her schedule 2. System displays schedule print page |
| Pre-condition | User is logged in and has finalized a schedule. |
| Post-condition | Success: User’s schedule is printed.  Fail: User’s schedule is not printed. |

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| UC15 - Create Course | |
| Risk Assessment | 3/5 |
| Importance | 5/5 |
| Actors | Faculty Admin |
| Description | Faculty Admin creates a new course. |
| Basic Flow | 1. User navigates to create course page 2. User enters all course information 3. User saves new course |
| Pre-condition | Faculty Admin is logged in and has permission to add course. |
| Post-condition | Success: Faculty Admin creates a course in the system.  Fail: Course is not added or Faculty Admin is restricted from adding courses. |

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| UC16 - Remove Course | |
| Risk Assessment | 5/5 |
| Importance | 4/5 |
| Actors | Faculty Admin |
| Description | Faculty Admin removes a course. |
| Basic Flow | 1. User searches a course 2. User finds course to remove 3. User removes the course |
| Pre-condition | Faculty Admin is logged in and has permission to remove course. |
| Post-condition | Success: Course is removed.  Fail: Course is not removed or Faculty Admin is restricted. |

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| UC17 - Update Course | |
| Risk Assessment | 2/5 |
| Importance | 5/5 |
| Actors | Faculty Admin |
| Description | User edits the description of a course. |
| Basic Flow | 1. User enters information for a course 2. System updates information for that course |
| Pre-condition | User is logged in. |
| Post-condition | Success: The specified course’s information is updated.  Fail: The course’s information is not updated. |

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| UC18 - Create User | |
| Risk Assessment | 4/5 |
| Importance | 5/5 |
| Actors | System Admin |
| Description | System Admin creates a user of the system. |
| Basic Flow | 1. System Admin enters information for a new user (with specific permissions) 2. System creates the new user |
| Pre-condition | System Admin is logged in. |
| Post-condition | Success: A new user is created.  Fail: A user is not created. |

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| UC19 - Remove User | |
| Risk Assessment | 4/5 |
| Importance | 5/5 |
| Actors | System Admin |
| Description | System Admin removes a user from the system. |
| Basic Flow | 1. System Admin selects a user to remove 2. System removes selected user |
| Pre-condition | System Admin is logged in. |
| Post-condition | Success: The user is removed from the system.  Fail: The user is not removed from the system. |

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| UC20 - Update User | |
| Risk Assessment | 4/5 |
| Importance | 5/5 |
| Actors | System Admin |
| Description | System Admin updates a user’s information. |
| Basic Flow | 1. System Admin modifies information of a selected user 2. System updates the user’s information |
| Pre-condition | System Admin is logged in. |
| Post-condition | Success: The user information is updated.  Fail: The user information is not updated. |

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| UC21 - View User | |
| Risk Assessment | 1/5 |
| Importance | 4/5 |
| Actors | System Admin |
| Description | View system user information. |
| Basic Flow | 1. System Admin logs in 2. System Admin searches for a user 3. System Admin views user information |
| Pre-condition | System Admin is logged in and finds user. |
| Post-condition | Success: System Admin sees user information.  Fail: User information is not displayed. |

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| UC22 - Update Course Grades | |
| Risk Assessment | 4/5 |
| Importance | 5/5 |
| Actors | Professor |
| Description | User enters the grades of all students of a class. |
| Basic Flow | 1. User enters student grades for a course 2. System updates user grades for that course |
| Pre-condition | User is logged in and is the professor of the selected course. |
| Post-condition | Success: Students’ grades in the selected class are updated. |

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| UC23 - View Professor Schedule | |
| Risk Assessment | 1/5 |
| Importance | 3/5 |
| Actors | Professor |
| Description | Professor views the schedule of the course they are teaching. |
| Basic Flow | 1. User navigates to view schedule page 2. System displays professors schedule |
| Pre-condition | User is logged in and is a professor. |
| Post-condition | Success: Professor sees their current schedule.  Fail: Schedule is not displayed. |