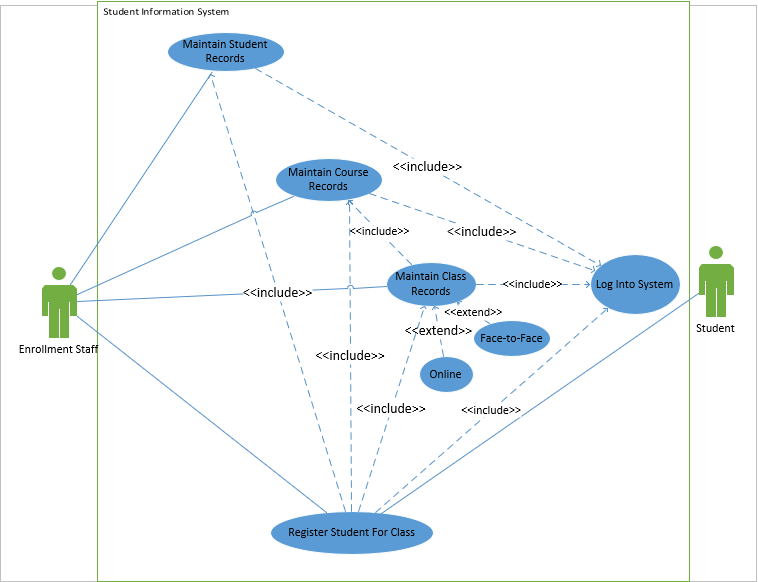
# IT 315 Final Project Part I Solution Submission Template

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1. **Creation:**



**Use Case 1**

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| **Use Case Name:** Maintain Student Records | **ID:** 00001 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Enrollment Staff who want to maintain the student records. | | |
| **Brief Description:** This use case will allow the enrollment staff to add, modify, and/or delete any student record. | | |
| **Trigger:** A staff member wants to add, modify, or delete a student record.  **Type:** External | | |
| **Relationships**   * **Association:** Enrollment Staff * **Include:** Log into System * **Extend:** N/A * **Generalization:** N/A | | |
| **Normal Flow of Events:**   1. A student record needs to be added, modified, or delete. 2. Enrollment staff will log into system. 3. System will validate enrollment staff, as well as permission. 4. Enrollment staff identify the action to be performed, triggering a sub-flow. 5. Once action is preformed, the staff will validate that records have been successfully added, modified, or deleted. 6. If a new record needs to be worked on, the enrollment staff will repeat the process stating from step 3. | | |
| **Sub-Flows:**   * If new student needs to be added: * Enter **all** the required information: * First Name, Middle Initials, Last Name, Date of Birth, Student ID * Department (e.g., psychology), Cumulative GPA ( on a scale of 1.0 to 4.0) * If student records need to be updated * Update **only** the necessary fields * First Name, Middle Initials, Last Name, Date of Birth, Student ID * Department (e.g., psychology), Cumulative GPA ( on a scale of 1.0 to 4.0) * If student record needs to be deleted * Execute the deleting process (Maybe click on delete button) | | |
| **Alternate/Exceptional Flows:**   * The staff provides invalid information during the logs in process and the system is not able to validate permission. * The system throws an error message when trying to add, modify or delete a student record. | | |

**Use Case 2**

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| **Use Case Name:** Maintain Course Records | **ID:**  00002 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Enrollment Staff who want to maintain the course records. | | |
| **Brief Description:** This use case will allow the enrollment staff to add, modify, and/or delete any courses offered by the college. | | |
| **Trigger:** A staff member wants to add, modify, or delete a course record.  **Type:** External | | |
| **Relationships**   * **Association:** Enrollment Staff * **Include:** Authentication verification to use the system. * **Extend:** N/A * **Generalization:** N/A | | |
| **Normal Flow of Events:**   1. A course record needs to be added, modified, or delete. 2. Enrollment staff will log into system. 3. System will validate enrollment staff, as well as permission. 4. Enrollment staff identify the action to be performed, triggering a sub-flow. 5. Once action is preformed, the staff will validate that records have been successfully added, modified, or deleted. 6. If a new record needs to be worked on, the enrollment staff will repeat the process stating from step 3. | | |
| **Sub-Flows:**   * If new course needs to be added: * Enter **all** the required information: * Course ID * Course Name * Credit Hours * Description * Prerequisite Course * If a course records need to be updated * Update **only** the necessary fields * Course ID * Course Name * Credit Hours * Description * Prerequisite Course * If a course record needs to be deleted * Execute the deleting process (Maybe click on delete button) | | |
| **Alternate/Exceptional Flows:**   * The staff provides invalid information during the logs in process and the system is not able to validate permission. * The system throws an error message when trying to add, modify or delete a student record. | | |

**Use Case 3**

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| **Use Case Name:** Maintain Class Records | **ID:** 00003 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Enrollment Staff who want to maintain the Class records. | | |
| **Brief Description:** This use case will allow the enrollment staff to add, modify, and/or delete any class. | | |
| **Trigger:** A staff member wants to add, modify, or delete a class record.  **Type:** External | | |
| **Relationship**   * **Association:** Enrollment Staff * **Include:** Authentication verification to use the system and Maintain Course Records. * **Extend:** Online classes and Face-to-Face classes. * **Generalization:** N/A | | |
| **Normal Flow of Events:**   1. A class record needs to be added, modified, or delete. 2. Enrollment staff will log into system. 3. System will validate enrollment staff, as well as permission. 4. Enrollment staff identify the action to be performed, triggering a sub-flow. 5. Once action is preformed, the staff will validate that records have been successfully added, modified, or deleted. 6. If a new record needs to be worked on, the enrollment staff will repeat the process stating from step 3. | | |
| **Sub-Flows:**   1. The system will verify that the class is associated with an existing course. 2. If course exist, the staff will perform one of the following tasks.  * If new class needs to be added: * Enter **all** the required information: * Course ID, Course Name, Credit Hours, Description, Prerequisite Course * If a course records need to be updated * Update **only** the necessary fields * Course ID, Course Name, Credit Hours, Description, Prerequisite Course * If a course record needs to be deleted * Execute the deleting process (Maybe click on delete button) | | |
| **Alternate/Exceptional Flows:**   * The staff provides invalid information during the logs in process and the system is not able to validate permission. * The system throws an error message when trying to add, modify or delete a student record. * The system displays a message because the class Is not associated with a course. | | |

**Use Case 4**

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| **Use Case Name:** Maintain Online Class Records | **ID:** 00004 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Enrollment Staff who want to maintain the online class unique records. | | |
| **Brief Description:** This use case will allow the enrollment staff to add, modify, and/or delete attributes that are specific to an online class. | | |
| **Trigger:** A staff member wants to add, modify, or delete specific online classes attributes.  **Type:** External | | |
| **Relationships**   * **Association:** N/A * **Include:** Maintain class Records. * **Extend:** N/A * **Generalization:** N/A | | |
| **Normal Flow of Events:**   1. Enrollment staff want to perform an action on the unique online class attributes. 2. Enrollment staff identify the action to be performed. (add, modify, delete). 3. This will trigger a sub-flow to be executed. 4. Validate that course records have been successfully added, modified, or deleted. 5. If a new record needs to be worked on, the enrollment staff will repeat the process stating from step 1. | | |
| **Sub-Flows:**   1. The system will verify that the class is associated with an existing course. 2. If course exist, the staff will perform one of the following tasks.  * If new class needs to be added: * Enter **all** the required information: * Class URL, Class Browser * If a course records need to be updated * Update **only** the necessary fields * Class URL, Class Browser * If a course record needs to be deleted * Execute the deleting process | | |
| **Alternate/Exceptional Flows:**   * The system throws an error message when trying to add, modify or delete a student record. * The system displays a message because the class Is not associated with a course. | | |

**Use Case 5**

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| **Use Case Name:** Maintain Face-to-Face Class Records | | **ID:** 00005 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff | **Use Case Type:** Detail, Essential | | |
| **Stakeholders and Interests:** Enrollment Staff who want to maintain the fate-to-face unique class records. | | | |
| **Brief Description:** This use case will allow the enrollment staff to add, modify, and/or delete attributes that specifically belong to a fate-to-face class. | | | |
| **Trigger:** A staff member wants to add, modify, or delete specific face-to-face classes attributes.  **Type:** External | | | |
| **Relationships**   * **Association:** N/A * **Include:** Maintain class Records. * **Extend:** N/A * **Generalization:** N/A | | | |
| **Normal Flow of Events:**   1. Enrollment staff wants to perform an action on the unique face-to-face class attributes. 2. Enrollment staff identify the action to be performed. (add, modify, or delete). 3. This will trigger a sub-flow to be executed. 4. Validate that course records have been successfully added, modified, or deleted. 5. If a new record needs to be worked on, the enrollment staff will repeat the process stating from step 1. | | | |
| Sub-Flows:   1. The system will verify that the class is associated with an existing course. 2. If course exist, the staff will perform one of the following tasks.  * If new class needs to be added: * Enter **all** the required information: * Class Building * Classroom * If a course records need to be updated * Update **only** the necessary fields * Class building * Classroom * If a course record needs to be deleted * Execute the deleting process | | | |
| **Alternate/Exceptional Flows:**   * The system throws an error message when trying to add, modify or delete a student record. * The system displays a message because the class Is not associated with a course. | | | |

**Use Case 6**

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| **Use Case Name:** Register Student for Class | **ID:** 00006 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff and Students | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Enrollment Staff and students who want to register for an online or face-to-face class. | | |
| **Brief Description:** This use case will allow the enrollment staff and students to register for classes. | | |
| **Trigger:** A staff or student want to perform a class registration  **Type:** External | | |
| **Relationships**   * **Association:** Enrollment Staff, Student * **Include:** Maintain Student Records, Maintain Course Records, Maintain Class Records. * **Extend:** N/A * **Generalization:** N/A | | |
| **Normal Flow of Events:**   1. A student needs to register for class 2. The student or staff log into the system 3. The system validates log int, and privileges. 4. When student info is entered, the system will look at the student record to validate the student. 5. Once student is validated, the desired course will be selected. 6. The system will look at the course records to validate and identify the course. 7. The system will be displayed of future classes for the selected course. 8. The system will only display classes for only one semester out. 9. A class will be selected. 10. The system will look at the class record to validate the class. 11. Once class has been validated, a confirmation message will be displayed. 12. If a new class need to be selected, repeat the process from step 4. | | |
| **Sub-Flows:**   * Validate Student   + Go to the Student records and perform a search   + If student exist, process else provide and error message. * Validate course * Go to the course records and perform search. * If course exist, proceed, else provided and error message. * Validate Class * Go to the class records and perform search. * If class exist, proceed.   + Validate if student is already register for that class.   + If an online class, student must acknowledge that they have the required hardware and software to access online classes.   + Validate Student GPA.     - If GPA is 3.5 or lower, limit registration limit to 3.     - If GPA is above 3.5 not registration limit exists. * else provided and error message. | | |
| **Alternate/Exceptional Flows:**   * The staff provides invalid information during the logs in process and the system is not able to validate permission. * The system throws an error message when trying to add, modify or delete a student record. * The system fails to validate the student, course, or class. | | |

**Use Case 7**

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| **Use Case Name:** Log into System | **ID:** 00007 | **Importance Level:** 5 |
| **Primary Actor:** Enrollment Staff and Students | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Enrollment Staff and students who want to log into the system. | | |
| **Brief Description:** This use case will allow the enrollment staff and student to log into the system. | | |
| **Trigger:** A staff or student wants to log into the system to perform a task.  **Type:** Internal | | |
| **Relationships**   * **Association:** N/A * **Include:** N/A * **Extend:** N/A * **Generalization:** N/A | | |
| **Normal Flow of Events:**   1. The student or staff want to log into the system. 2. The system will validate their credential and allow access if verified. | | |
| **Sub-Flows:** N/A | | |
| **Alternate/Exceptional Flows:**   * The system throws an error message if staff or student is not authorized to use the system. | | |

**Testing:**

During the verification process I compared and contrasted my diagram to the system requirement to ensure that everything was covered. I asked my self certain questions that helped me determined whether or not I create a coherent diagram that represented exactly what the school needed. Did I correctly identified all the top level functionalities presented in the requirements? Are the relationships between use cases properly implemented? Does the right user have access to complete their permitted task? As I asked myself this question, I was able to determine that my diagram provide just the right amount of use cases to provide a proper representation of the system. Lastly, I believe that my use cases will in fact perform in unison creatin a complete coherent system.

1. **Approach Explanation:**

When selecting the use cases that I selected and their relationship, my main goal was to provide a simple comprehensive diagram that capture all the main functionalities of the system. First, I identified who will have access to the system, and based on the presented requirement I was able to determine that the enrollment staff as well as the students will use this system. Once I identified my two actors, I focused on the enrollment staff and identified all the function that they will need to perform. Such as maintain student records, maintain course records, maintain class records, and register student for class. Having identified my main functionalities then I looked to determine if there were any additional top level cases that needed to be considered and I determined that online classes, face-to-face classes, and log in. Having all of my top level cases identified then I proceeded to identify their relationship.

* The enrollment staff will have an association with maintain student records, maintain course records, maintain class records, and register student, base on the task they are require completing.
* All four of the previews cases I jus mentioned will have an inclusive relationship with the Log into System case, since they will have to log into the system in order to perform any of the required task.
* The maintain class record will have an inclusive relationship to maintain course records, since the system will have to validate that a course is associated to a class. Additionally, maintain class records will also have an extended relationship with online and face-to-face class. I decided on an extended relationship because these two operations won’t always be executed.
* The register student for class use case will have an inclusive relationship with maintain student records, maintain course records, and maintain class records, since during the registration process it will need access to all three cases to validate information.

After all of my relationships were created and I was done with the staff, I turned my focus on the student and determined what access does he needs. Based on the requirement he will only be able to register for classes, so an association between register student for class and student was specified.

1. **Self-Reflection:**

This lesson definitely took a lot out of me and not because it was complex or difficult to do, but because of how challenging it proves to keep this diagram simple. Every time I think of a diagram I think of a visual representation of an algorithm or a pseudo code where the more detail you provide that better. Use case is the complete opposite of that, the simpler the diagram the better it is. On another note, the material does seem to be getting a little easier, but there is still the constant doubt of whether you are going on the right direction, if you are overthinking it, if is to simple