



Blackboard: Coursework Exchange System

MSIS/IT 461: Systems Analysis & Design

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Group #4

Anthony Lynch

Jacqueline Lai

Prashiddha Pokhrel

Willy Nguyen



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Executive Summary

Blackboard is an existing information system and an online-learning environment/platform that is widely known for its tools, functionalities, and accessibilities in which both students and instructors will be able to benefit in the long-run. Such benefits and functionalities include course/class management, simple and unique navigation, interactive coursework, assessments, and an alternative to attending classes via online conference rooms if something were to happen. This particular site acts as one half to the other half, which is the associated school that completes its whole circle. However, there will always be flaws and cons present within the system, which will require future improvements and patches to implement.

Primarily focusing on the student's point of view, one of the few limitations/flaws that was encountered upon use is the fact that Blackboard restricts students from accessing past classes and revisiting contents after the semester finishes. It disappears from the main page after the semester or withdrawing/dropping from the course. Although it is the student's responsibility to store and manage any related coursework within the limited time range, it becomes an inevitable and unavoidable issue if external factors were to play a part in losing said materials, such as device malfunctions and poor communication and request for past materials. As students, it becomes a frustrating matter when you lose or are missing a certain type of coursework which is required for a particular event, such as interviews or the WPE.

Thus, to resolve this type of issue, our group will propose a new addition to the pre-existing information system that will involve the students, instructors, and administrators to partake in. Also, the term "Students" will be used as a generalized role and it will have multiple specialized roles connecting to it, which will consist of the people involved with our idea. There are three types: (1) Non-Active Students are students who have graduated or have taken a leave of absence from said university for at least 1 semester, (2) Active Students are students who are currently active and have already taken a particular course at UMB, and (3) Active Enrolled/Registered Students are students who are currently active and are currently taking a particular course at UMB. Keeping in mind that students are the main benefactor while instructors and administrators play a supporting role, we propose that Blackboard should include a "Course Exchange" feature and system. Additional policies will be implemented to compliment the new system, and this will follow all current and existing federal/state/local laws, such as copyright. With the expectations that there will be some problems and flaws along the way, we expect that this will become a useful and prominent feature for the future as demands for this platform and student activities will increase after implementation and maintenance.



Project Description

A problem statement (Systems Proposal) (Include only the problems or limitations you encountered; there is no need for objectives and scope).

It is the students' responsibility to store past works and assignments within their storage if they would like to revisit again. However, students may encounter some sort of external/internal problems that compromises their files, which leads to the unavailability of said files and documents. One of the few limitations and problems of this system is that Blackboard restricts students from accessing past classes and revisiting contents after the semester finishes as it disappears from the main page. For instances like the WPE requirement, students would need to regain access to them in order to graduate and move forward with their educational journey. It is understood that this would prevent students from publishing onto other document sharing platforms and prevents students from being overwhelmed with the list of classes that they had taken in the past, but it still acts as a wall or obstacle that interferes with the student's need for convenience.

Thus, we will provide a new system and feature that will be more convenient for students to regain materials from past classes. This proposed system will focus primarily on file exchange, which will resolve the issues of convenience while increasing contact with professors. If, for some reason, students don't have knowledge of relevant courses and contact information, this will also enable them to get into immediate contact with their professors to conduct the exchange.

Business Process (As-Is):

No.	Requirements (As-is Business Processes)
1.	Register into the school system - All registered students and faculty must be given an affiliated university email and temporary password by administrator and staff in order to log into the blackboard system, which user's profile process may be completed with username and personalized password. Also, they are to provide certain student information in order for administrators to create and edit the user's profile -- finalizing.
2.	Create Course-related Work - Instructors create assignments, quizzes, exams, for students to view and submit for a grade.
3.	Submit Grades - Instructors submit grades into the gradebook with students' submitted works unless they have set an automated feature of posting their grades automatically and immediately after completing an online assignment/assessment/quiz/test.
4.	Submit Coursework - Students submit their assignments, papers, or take-home tests/assessments/quizzes via a submission page and link once it is made available and announced by the instructors themselves. This can be done through the doable navigation system that is in place, whether it would be accessing from folder to folder or from the "To Do" box on the course home page.
5.	Provide Course Materials - Instructors upload class materials, i.e. slides, documents, recordings for students to use. Students are also able to preview and view certain course materials, and are able to download them in various but limited forms, such as .pdf, .docx, and .ppt file format. Not only just readily-made course materials, but also graded work with attached feedback from the instructors if they had decided to make it public for the designated user to look at.
6.	Email Designated Receivers - Students can also email their professors or fellow classmates via blackboard where they can send and receive emails within their blackboard inbox.

7.	Create Online Classroom W/ Blackboard Ultra - In cases of certain issues, such as the Covid-19 crisis, both students and teachers can have online meetings via blackboard ultra. They can set up a room and provide a link and possibly a password to the users in order for them to join in -- Almost similar to a zoom and other online conference applications.
8.	Extend Discussions - Students can create threads for discussion and make comments on others' works.
9.	View Grades - Students can track their progress via blackboard and view their rubric for graded assignments.
10.	Add & View Events on Calendar - The calendar displays a consolidated view of all events for the specific user where they can keep track of their priorities.

Policies (As-Is):

No.	Requirements (As-is Policies)
1.	Length of access to course - Students have access to the course until instructors make it unavailable, usually at the end of the semester.
2.	Registered into the school system - Students must be affiliated to the university/school and to be registered into the school system and database. Otherwise, the administrator will not be able to verify their identity.
3.	Withdrawing/dropping a course - Students that withdraw or drop the course get their access revoked to prevent unauthorized access to course materials.

4.	<p>Limited range of accessibility - Depending on status, the user will have limited range of accessibility to the features & functions of Blackboard.</p> <p>a. For example: Students as base users can only access, download, preview and interact with provided materials that are made available from the teacher and administrator. Teachers are able to organize classrooms, monitor activity and progression, and provide course materials via website. Administrators will have full-range of control over the entirety of the system, as long as they are given permission by the affiliated school board.</p>
5.	<p>Copyright & Consent - Although it is an identifiable issue that must be addressed for our proposed system, permission to copy Blackboard content must be given and received from said instructor, whether it is through verbal communication or in writing.</p>

Reports & Queries (As-Is):

No.	Requirements (As-is Reports & Queries)
1.	<p>Feedback report on BlackBoard Ultra: How was their experience? Was the audio quality good? Was the video quality good? Any technical issues while on the call, leaving the call, or before the call?</p>
2.	<p>Grade submission report: Teachers have the option to submit a secondary file into the submission page for students to view and visit as teachers may provide feedback on the students' work. Also, the blackboard automated system will be able to keep track and notify associated users of how many students were able to submit their assignments on time or not.</p>

3.	Overall Summary of User Activity: Displays user activity for all areas of your course, as well as activity dates, times, and days of the week. Use this report to view student access as well as how often the course tools are used.
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Business Processes (To-Be)

No.	Requirements (To-Be Business Process)
1.	Register into the school system - All registered students and faculty must be given an affiliated university email and temporary password by administrator and staff in order to log into the blackboard system, which user's profile process may be completed with username and personalized password. Also, they are to provide certain student information in order for administrators to create and edit the user's profile
2.	Submit Coursework - Students submit their assignments, papers, or take-home tests/assessments/quizzes via a submission page and link once it is made available and announced by the instructors themselves. This can be done through the doable navigation system that is in place, whether it would be accessing from folder to folder or from the "To Do" box on the course home page.
3.	Provide Course Materials - Instructors upload class materials, i.e. slides, documents, recordings for students to use. Students are also able to preview and view certain course materials, and are able to download them in various but limited forms, such as .pdf, .docx, and .ppt file format. Not only readily made course materials, but also graded work with attached feedback from the instructors if they had decided to make it public for the designated user to look at.
4.	Email Designated Receivers - Students can also email their professors via blackboard where they can send and receive emails within their blackboard inbox.
5.	Create Online Classroom W/ Blackboard Ultra - In cases of certain issues, such as the Covid-19 crisis, both students and teachers can have online meetings via blackboard ultra. They can set up a room and provide a link and possibly a password to the users in order for them to join in -- Almost similar to a zoom and other online conference applications.
6.	Email Designated Receivers - The calendar displays a consolidated view of all events for the specific user where they can keep track of their priorities.
7.	Prior submitted work request - Students can request access to submitted works, when the current semester is over, and they no longer have access to the course.

8.	Allow/deny - Instructors either deny or allow the student to access the requested submitted work.
9.	1-year limited access - System Administrators removes access permission from previous students after their 1-year access extension period/policy has passed.
10.	Verification - System Administrators must verify users in order to proceed to the next step of making a formal request.

Policies (To-Be):

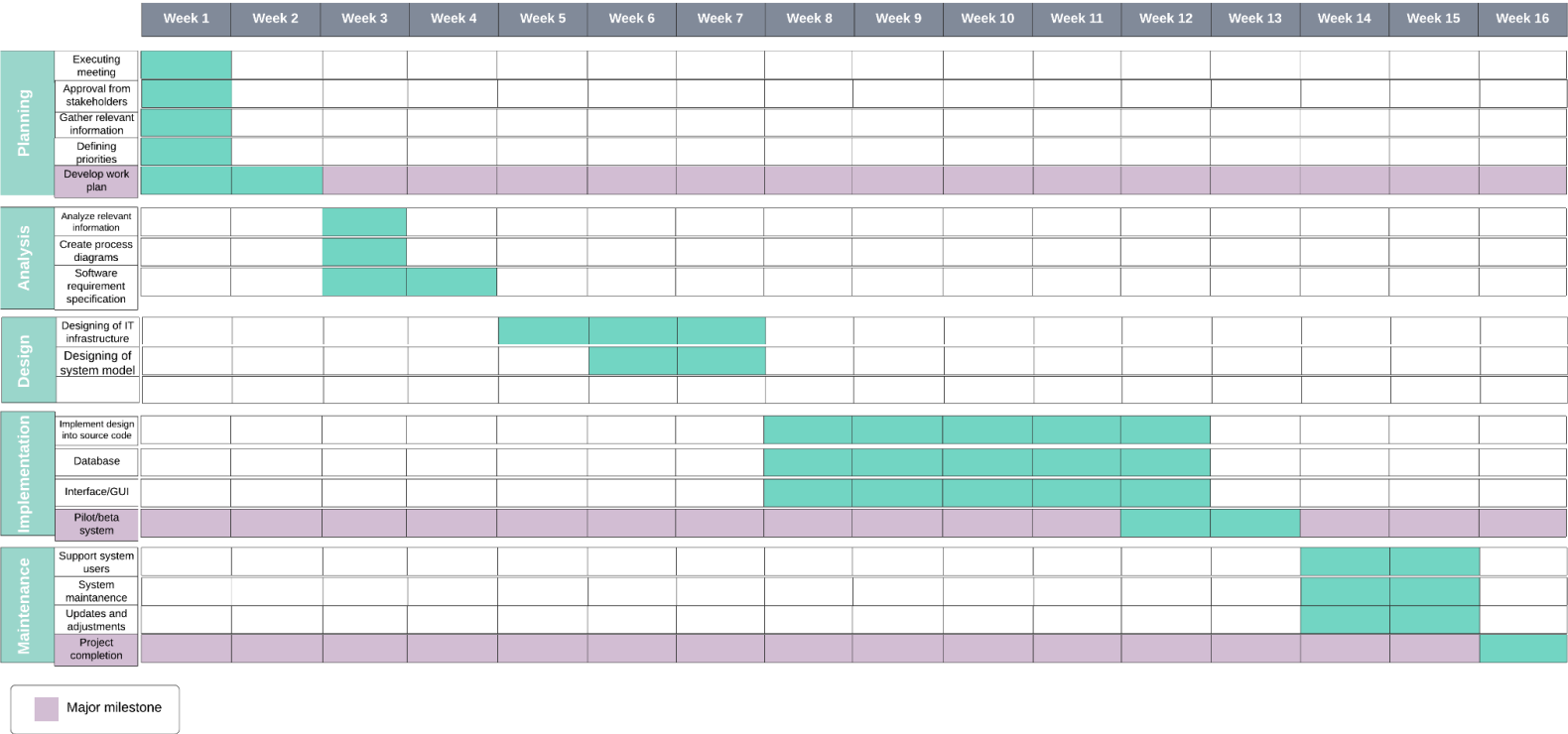
No.	Requirements (To-Be Business Policies)
1.	Length of access to course - Students have access to course until instructors make it unavailable, usually at the end of the semester.
2.	Registered into the school system - Students must be affiliated to the university/school and to be registered into the school system and database. Otherwise, the administrator will not be able to verify their identity.
3.	Withdrawing/dropping a course - Students that withdraw or drop the course get their access revoked to prevent unauthorized access to course materials.
4.	Limited range of accessibility - Depending on status, the user will have limited range of accessibility to the features & functions of Blackboard. For example: Students as base users can only access, download, preview and interact with provided materials that are made available from the teacher and administrator. Teachers can organize classrooms, monitor activity and progression, and provide course materials via website. Administrators will have full range of control over the entirety of the system, as long as they are given permission by the affiliated school board.
5.	Copyright & Consent - Although it is an identifiable issue that must be addressed for our proposed system, permission to copy Blackboard content must be given and received from said instructor, whether it is through verbal communication or in writing.
6.	Registered and/or within the books/records of the school - Students must be affiliated to the university/school and to be registered into the school system and database.
7.	Type of accessible materials - Students may request access to prior papers, projects, assignments, but not quizzes and exams.
8.	Add & View Events on Calendar - In the case of past students who had either graduated from, dropped out, taken a break from, or had transferred out of the

	<p>affiliated school, are granted limited time access of 1 year right after doing so and to have limited features given, such as the course material request section. If it had extended outside of the 1-year mark, then past students must follow a link from the school's website or blackboard login page to be redirected to an alternative page for the "file-exchange" process. They must send a formal request with information of their primary email, course title, requested materials, student ID, etc. Registered and enrolled students also must follow a similar process, but simply click on the new added feature on blackboard and fill out the online form from there.</p>
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Reports (To-Be):

No.	Requirements (To-Be Business Reports)
1.	Common materials requested - What is the most common course material or coursework that has been asked and requested by the students to the teachers in the past half a year or so after the semester ended?
2.	Total Student request - The number of students requesting access to prior submitted works, after the current semester is over?
3.	Request motive - What kind of purpose does the user use these documents and/or course materials for?
4.	Request Frequency - What is the range of time or length of time that past students revisited the site to request past materials and assignments?

Gantt Chart



Outline of Gantt Chart

Planning

1. Executive meeting
2. Approval from stakeholders
3. Gather relevant information
4. Defining priorities
5. Develop work plan

Analysis

1. Analyze relevant information
2. Create process diagrams

3. Software requirement specification

Design

1. Designing of IT infrastructure
2. Designing of system model

Implementation

1. Implement design into source code
2. Database
3. Interface/GUI
4. Pilot/beta system

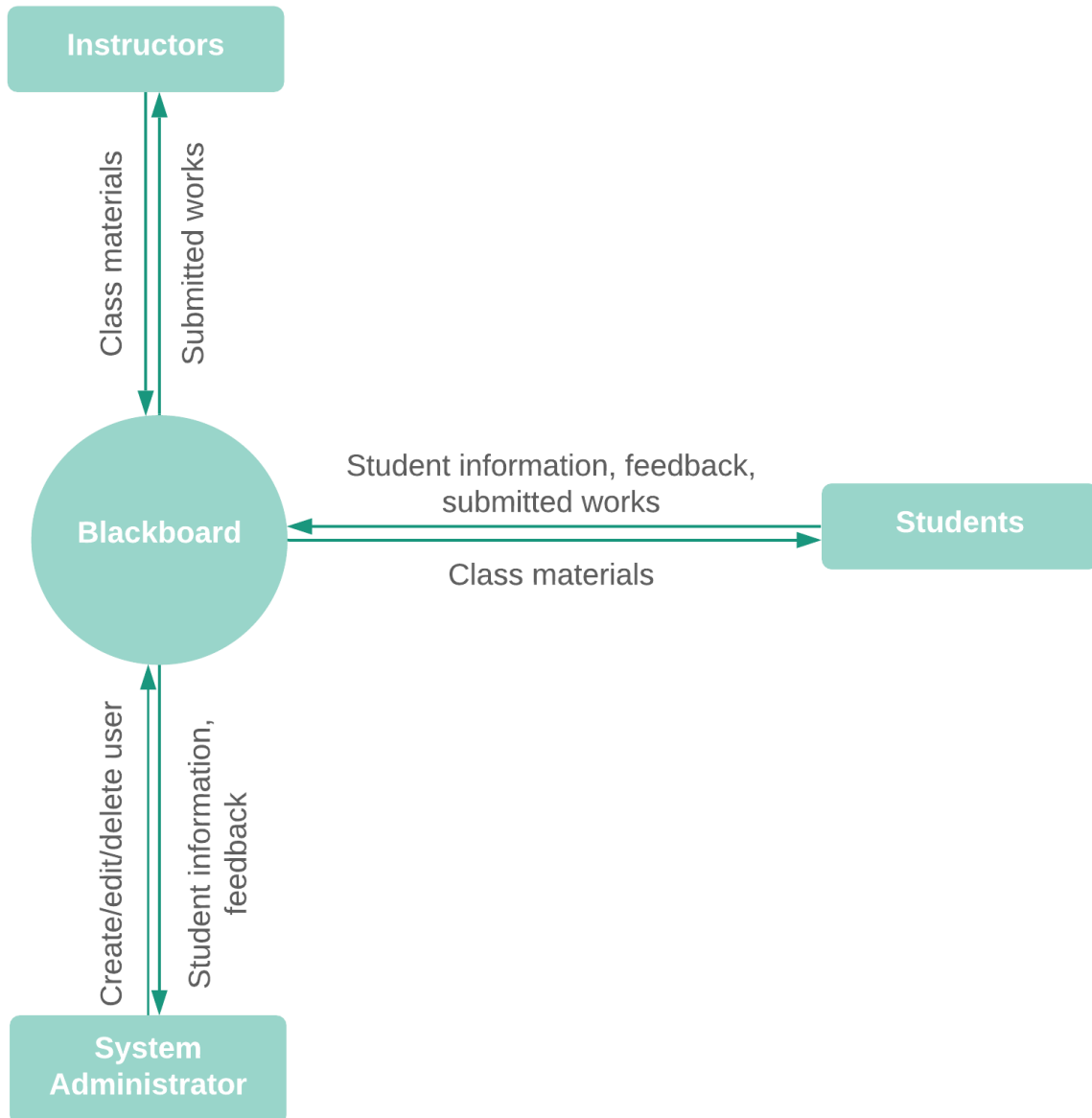
Maintenance

1. Support system users
2. System maintenance
3. Updates and adjustments
4. Project completion

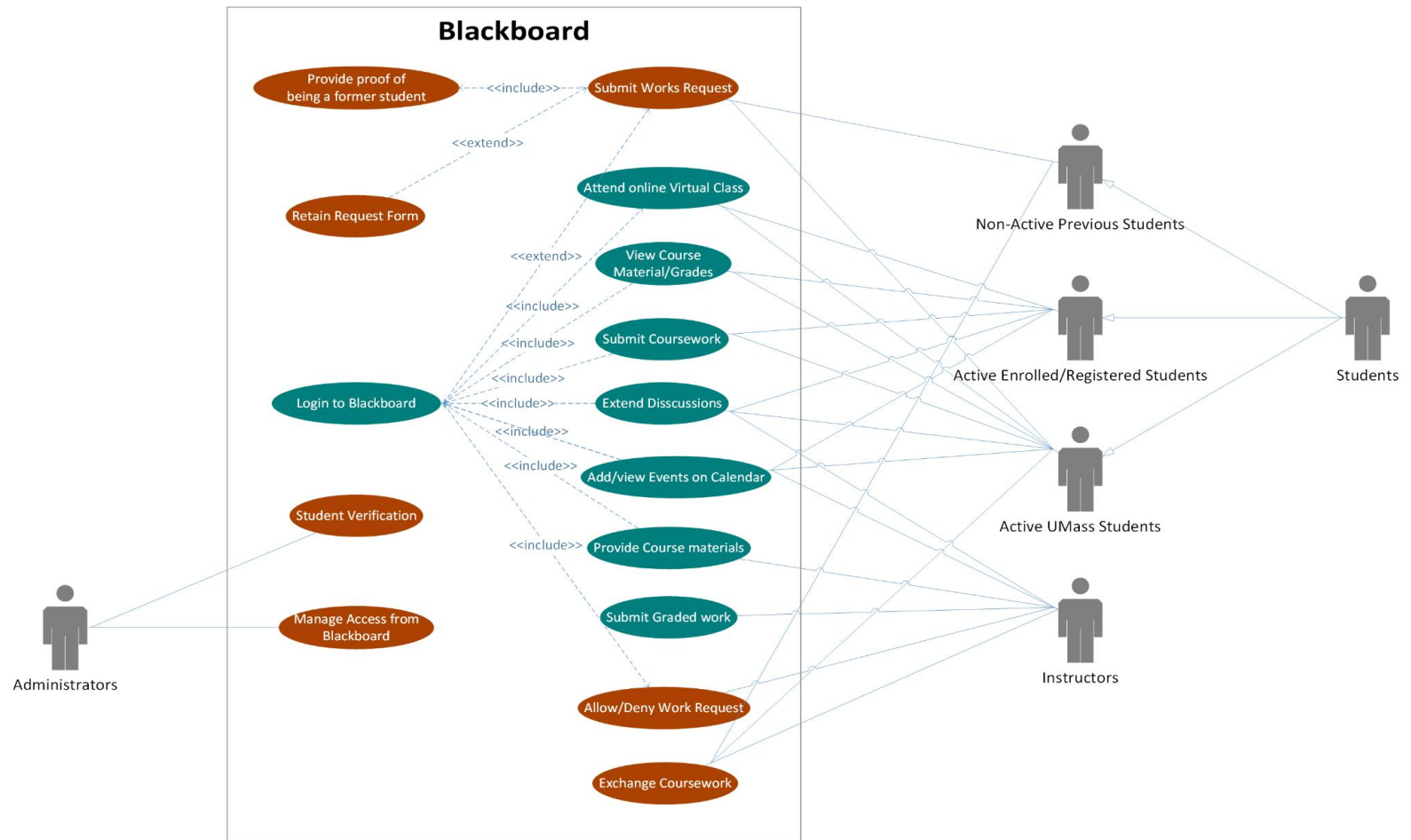
Major milestones

1. Develop work plan
2. Pilot/beta system
3. Project completion

Context Diagram



UseCase Diagram



Key Table of Use Case Diagram

Key Table of Use Case Diagram	
Color	Value/Meaning
Blue	As-Is (Before implementing new system)
Orange	To-Be (After implementing new system)

Flow of Events:

No.	Login to Blackboard
1.	Students enrolled in an affiliated university receive a school email ID.
2.	System administrators provide temporary passwords to each enrolled student.
3.	Students log into Blackboard with school email ID and temporary password.
4.	Students are then prompted to create their own password.
5.	Student Blackboard account is completed, and they can now access resources.

No.	Submit Work(s) Request
1.	Actively enrolled students who would like to review their past semesters work will have to click on the new added feature that will bring them to the request form.
2.	They will then fill out their name, student id, school email, course id, requested materials, and the reason for requesting the materials.
3.	For students who do not have access to Blackboard anymore (graduated, taking break, dropped out, transferred) will have to follow a link either on the school or blackboard website.
4.	It will redirect them to the online request form where they will need to provide name, student ID, primary email, course id, requested materials, and the reason for requesting the materials.

No.	Remove Access Permission from Blackboard
1.	System Administrators checks whether or not students from the graduating class or any previous students who had left the university are not in the system anymore.
2.	System Administrators allow some sort of access permission after .5 - 1 year within blackboard.
3.	System Administrators remove access from non-active previous students after their .5 - 1 year access extension period has passed.

No.	Student Verification
1.	Students use the third-party link from within blackboard or from the log-in page.
2.	Students insert specific information into the form, such as graduation date, student ID, school email, etc.
3.	System Administrators can verify users in order to proceed to the next step of making a formal request.

No.	Provide Course Materials
1.	Instructors upload course materials (slides, documents, recordings) in the course materials tab
2.	Students can then view and download those course materials in different formats (.pdf, .docx, and .ppt)

No.	Provide Other Course-related work
1.	Instructors create assignments, quizzes, exams with a deadline (date and time)
2.	Students will have to complete those assignments, quizzes, exams and submit it on the submission page before the deadline
3.	Students will receive a confirmation of their submission via email

No.	Submit Graded Work
1.	Instructors view and/or retrieve submitted coursework/assignments via blackboard submission page to grade at their own time.
2.	Once the students' works have been graded, the instructors submits the grade value into the submission page or the "My Grades" section in which instructors will be given the option to make the grades public for students to view.

3.	In cases of assessments/tests/quizzes and if the online coursework doesn't require manual grading, then an automated graded system on BlackBoard automatically grades the questions based on the values and correct answers provided by the instructor.
4.	The automated grading system will display and post the student's grade right after submission and closing the assignment page.

No.	Create/Attend Online Virtual Class
1.	In cases of potential online learning and instructing, instructors will make the Blackboard Ultra feature available and viewable for students to see and enter.
2.	Instructors create an online virtual room with security and class settings in place.
3.	Instructors may be able to set up a course meeting reminder on Blackboard's calendar section.
4.	Instructors send the link and open the room for students to come in.
5.	Students click on the link via announcements or email and enter into the room.
6.	Students must double-check for audio and video quality before joining in the online class session.

No.	Extend Discussions
1.	After students click and enter into their course homepage, the users will click on the "Discussions" link on the side toolbar.
2.	Depending on the list of forums and group sections that are in place for students to enter into, the users clicks on the desired forum link to enter.
3.	Students can create their own thread if they wish to extend a discussion or to have a question answered by clicking on "Create Thread".
4.	Students can also join other people's thread to comment or answer on their work by clicking on the title of the thread.

5.	In order to reply, students or the course instructor can click on the “Reply” button and type out a message in the text box. These users can remain anonymous if they choose to click on the “Anonymous” box. They can also email the author of the thread for private conversation if need be by clicking on the “Email Author” button after hovering over the thread message.
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No.	Add and View Events on Calendar
1.	Both students and instructors must click on their profile icon on the top-right section (depending on the website format by school and web-designer) for the list of options to be displayed.
2.	Users will click on the calendar icon and will be presented a standardized calendar with sets of events in place for each day.
3.	For students, they can view each day’s event and click on the left or right arrow icon to preview the next and previous events from the instructors.
4.	For students, they can also add personal events by clicking on the “+” icon on the top-right corner.
5.	For instructors, they can do the same but will select the course of choice to add in their choice of events.

No.	View Course Materials/Grades
1.	After logging in and accessing Blackboard’s course page, students redirect themselves to the designated folder or section.
2.	Instructors use permission features to allow users to view.
3.	Students can view the available course materials and grades after the Instructors have made them available to look into.

No.	Allow or deny Submitted Work Request
1.	Instructors will view the request form from active and inactive students after logging into Blackboard.
2.	They will then either allow or deny access to the requested materials.

No.	Exchange Coursework
1.	Instructors receive submitted works requests from Blackboard's exchange work feature.
2.	Instructors review the submitted work request form and decide if they will allow access based on the materials being requested.
3.	If instructors deny access to the requested work request, for example if the student requests an exam or quiz, then the instructor will deny access to the requested work and send a notification to the student via email or on blackboard.
4.	If instructors approve access to the requested work request, then instructors emails or make the requested material visible on Blackboard, depending on the status of the student.
5.	Students retrieve coursework via an access link on Blackboard or Email and make use with requested material.

No.	Managing Blackboard Access
1.	Administrator checks on student's statuses of being an active or inactive student of UMB and the course that they had enrolled in at the end of the semester.
2.	Administrator revokes the student's access to said course if the semester has ended.
3.	Administrator revokes the student's access to the blackboard if the student has either graduated, taken a break from the university, or fall within any lines of the policy.

Actors & Main Use-Case Table:

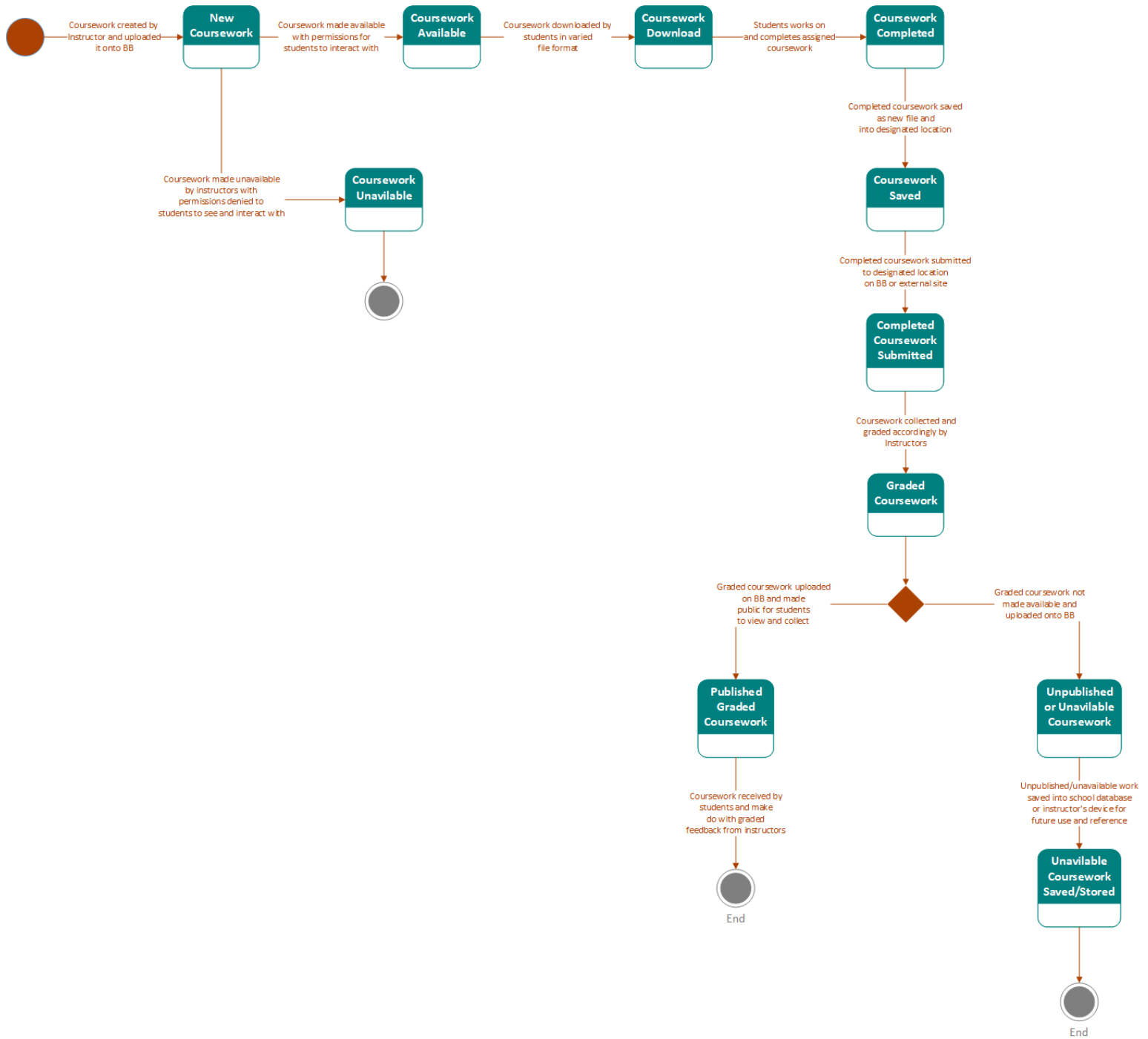
Actor	Usecase **Bolded Font = To-Be** **Regular, Unbolded Font = As-Is**
Students (Primary & Generalized)	Submit works request

Active Enrolled/Registered Students (Specialized Primary Actor) - “ <i>Submit Works Request</i> ” would still count for this actor, but it won’t be included in this section of use-cases because it is an automatic thing that is to be expected for this particular actor. This is for clarification if need be.	Submit coursework
	View course materials/grades
	Attend online virtual class
	Add/view events on calendar
Active UMB Students (Specialized Primary Actor)	Submit works request
	Submit coursework
	View course materials/grades
	Add/view events on calendar
	Attend online virtual class
Non-Active, Previous Students	Submit works request
Instructors (Supporting)	Provide course materials
	Allow/deny works request
	Submit graded work
	Create online virtual classes
	Add/view events on calendar

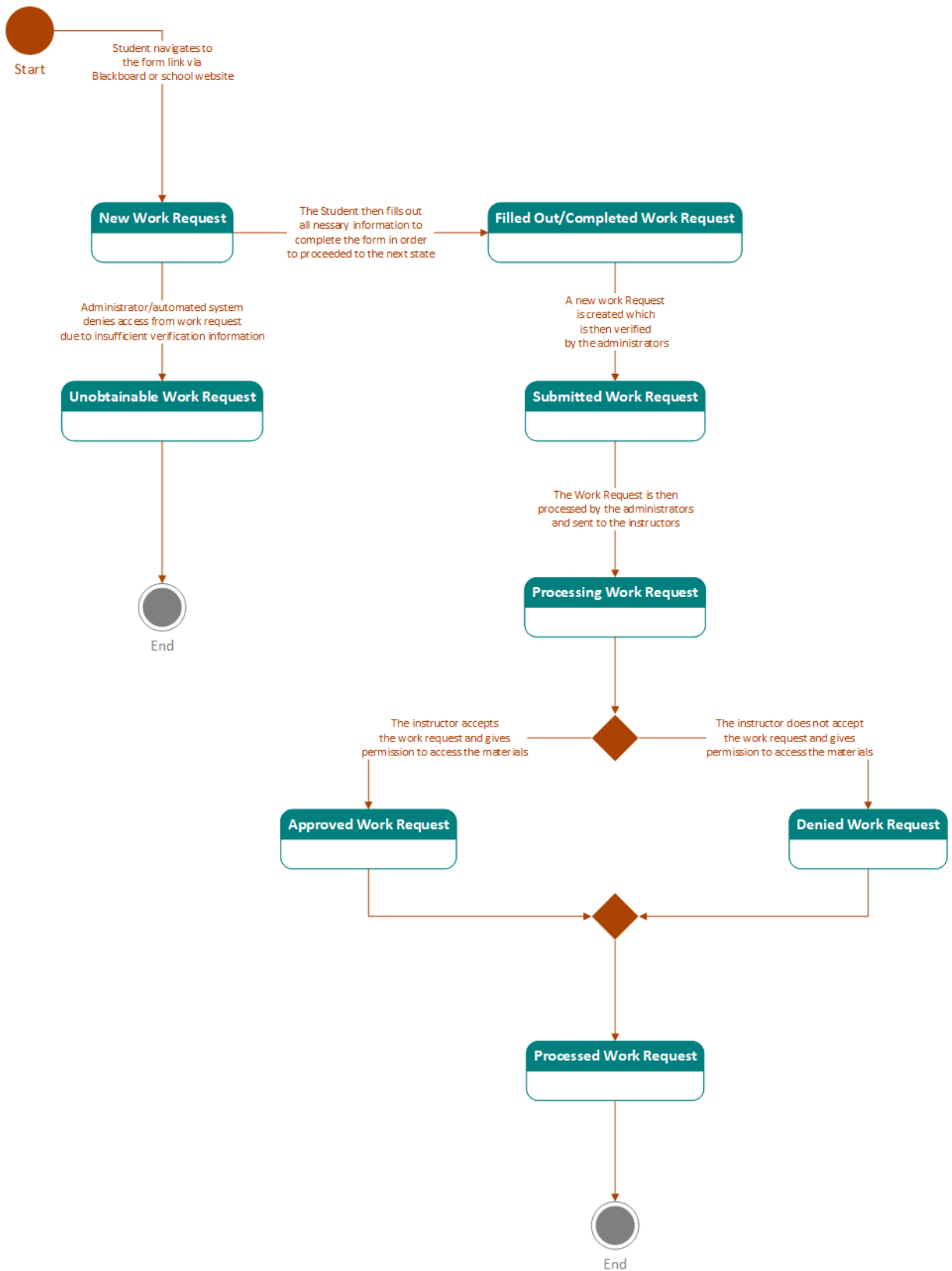
Administrators (Supporting)	Verify students
	Manage blackboard access

State Charts

Coursework State Chart Diagram

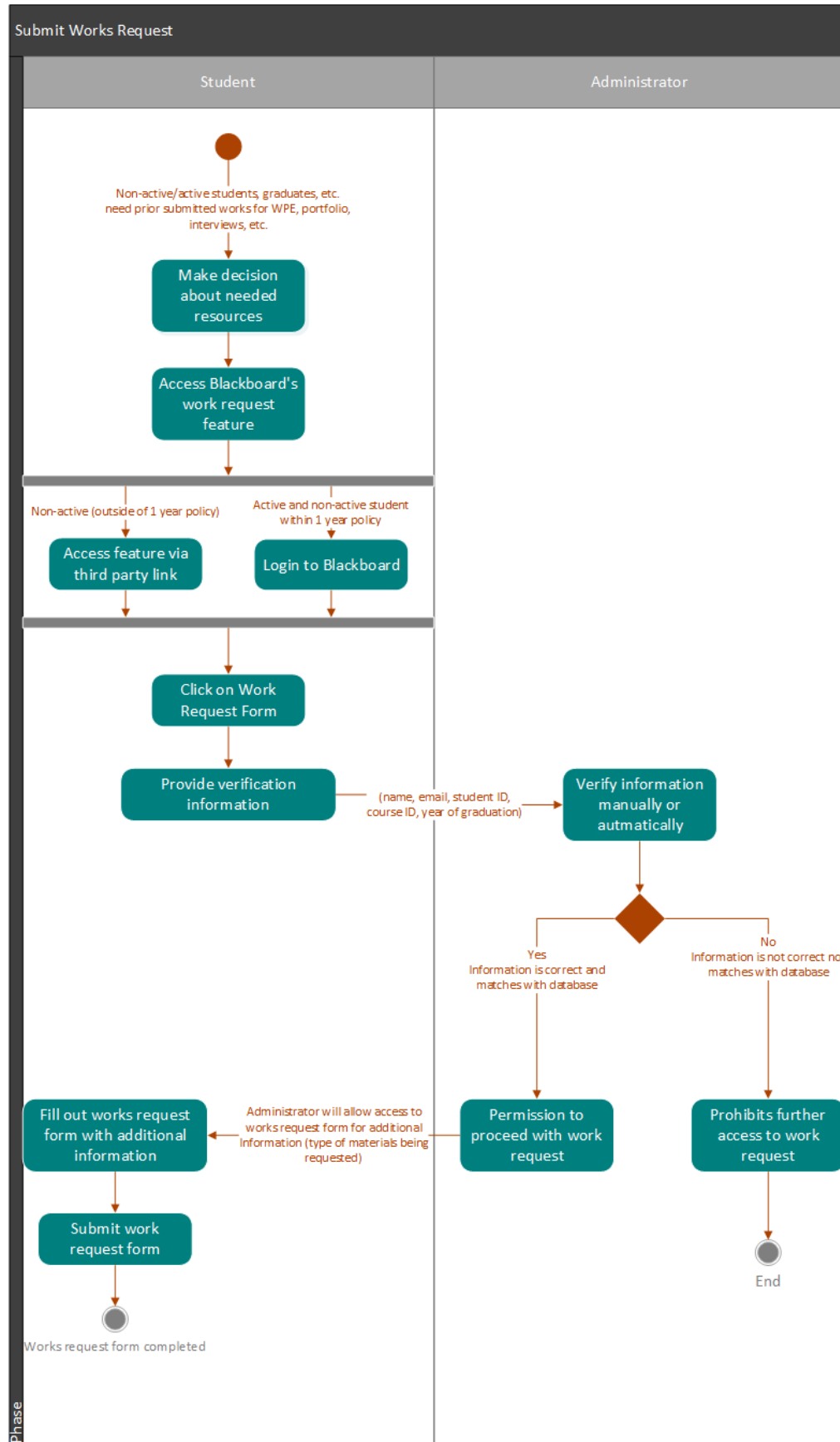


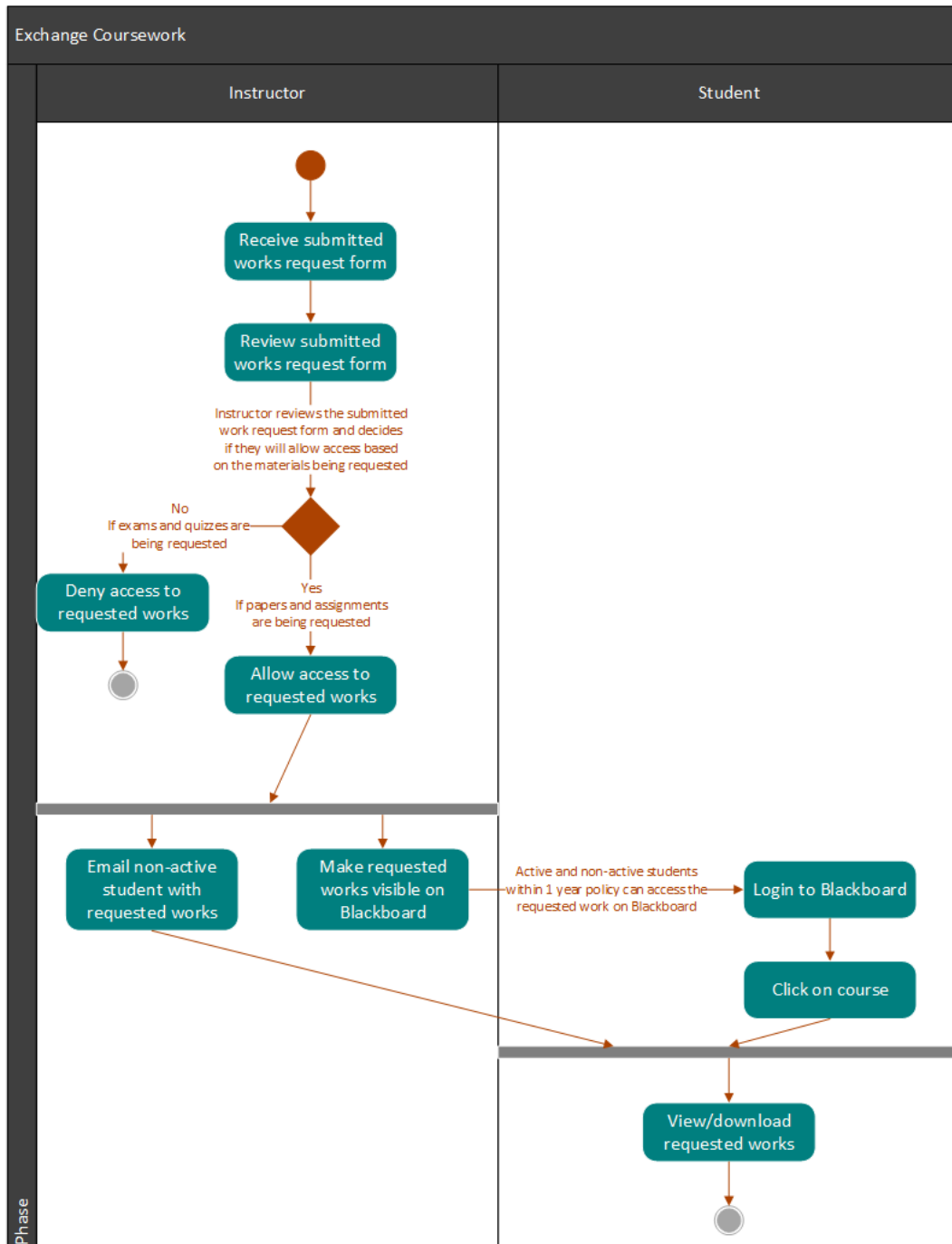
Work Request State Chart Diagram





Activity Diagrams







Feedback Table

Date	Assignment No.	Feedback From Instructor	Response
23 February 2021	1	“Excellent work! Keep it up!”	<p>Changes: N/A</p> <p>Since the professor has given us her approval of our project idea and proposal, there weren't many changes done after the presentation.</p>
5 April 2021	2	<p>Processes: 10 as-is generic processes not specifically related to the problem studied. To-be processes are fine. Just label the processes just you have in the diagram. For instance, you write as follows: Request Material: description.....</p> <p>Policies: Good list of as-is policies—is policies are fine. However, be careful that policy is just a statement, not a process. Also, give a reason for the second policy. The policy is like if true, then this happens; otherwise, that happens.</p> <p>Reports: As-is Reports and queries are listed from a student's perspective. Again to-be queries and reports need to be thought of whose benefit from these.</p> <p>Use Case: In the use case diagram, you can have only one login use case, and you can connect both instructor and student to that. You have to understand that ultimately it is one process with different credentials and views, which is not the focus of the analysis stage. Use verb+noun as a use case label. Be careful with include and extend</p>	<p>Changes:</p> <p>Labeled all of the processes and added the ones necessary to our project.</p> <p>Policies: For the to-be system we made an edit for the one year Policy.</p> <p>Use Case: We added 3 new use cases; “Exchange Coursework”, “Retain Request Form”, and “Provide proof of being a</p>

		relations. Also, pay attention to the direction of the arrows.	former student” to complete the use case diagram. We also deleted one of the login use cases and connected all of the appropriate use cases. Thus, we corrected the labels and overall layout design.
28 April 2021	3	“Good work! Keep it up!”	Changes: N/A Since the professor has given us her approval on our state and activity without many problems, there weren’t many changes made after the presentation.