# Project 1: 60-311
## By: Daniel Fontana
## Student ID: 104238738

# *Chapter 1: Introduction*

### 1.1 Function
- This system is segmented into two portions for easier implementation;
- The first segment is used for the initial application of student applicants and their acceptance or rejection to the MSc program. When a student submits an application, this segment will run the application through the approval process and place the student into the Master's program if approved.
- The second segment is intended for the management of all the CS MSc students from their initial acceptance into the program until their completion of graduate studies. This segment of the program will allow management and progress tracking Graduate Students in their graduate studies.

### 1.2 How It Works With Other Systems
- Uwindsor email service
  - This program uses the uwindsor email service to send out email notifications to various uwindsor student accounts
- UWin account services
  - The UWin account service provides existing uwindsor students with login credentials that they may use to login to a variety of online services
  - We will use these same accounts to allow CS MSc students to login to our System
  - We interact with this system by sending any entered UWinIDs and passwords to it for verification and account security.
- MYuwindsor Course Registration
  - The MYuwindsor course registration already exists to provide student's with the capability to register to a set of classes each semester and provides the systems necessary to check for scheduling conflicts, prerequisites, course list, and a timetable
  - We will use this system to allow our graduate students to register for classes
- Uwindsor Cashiers' Office
  - The system will utilize the existing services from the Cashier's' Office to allow Applicants and Grad Student's to pay fees

### 1.3 How the System Fits into the Overall Business
- Currently, all the processes for applying to CS MSc and the management of CS MSc Graduate Students is either fragmented into different systems or performed manually.

- This system aims to connect all these fragmented systems together and allow for a more automated process.

### 1.4 Strategic Objectives of the Organisation
- This system is intended to automate and track much of the systems needed to approve applicants and manage the Graduate Students in the MSc program.
- The goal of this system is to provide a intuitive and user friendly system that can be accessed online which allows login access for all users involved in the management of MSc studies. Ultimately the system hopes to make the Graduate Studies process faster and more transparent.

# Chapter 2: Glossary

**Downtime** - The time for which the system software is unavailable for normal use

**CS MSc** - Short for Computer Science Master of Science. Refers to the Computer Science MSc Thesis based Degree Program

# Chapter 3: User Requirements

## 3.1 Requirements for All Users
1. All users shall be able to log into system using their uwindsor ID and password

## 3.2 User Requirements Related to Applications

**About:** *This segment of the program requirements are related to the initial application process for the CS MSc program*
**Actors:** *Student Applicants, School of Computer Science, MSc Admission Committee, Supervisors, Graduate Studies Office*

### 3.2.2 Student Applicants
2. Students shall be provided with a description detailing the required documents and information necessary to complete their application
3. Applicants shall have the option to fill out either a International Student or Domestic Student application
4. Applicants should have access to the online application form for the periods listed below
    a. Fall Applications
        i. March 1 to May 1 (International Students)
        ii. May 1 to July 1 (Domestic Students)
    b. Winter Applications
        i. March 1 to September 1 (International Students)
        ii. May 1 to November 1 (Domestic Students)
5. Application form shall be unavailable when the current date lies outside the application periods (listed above)

6. The periods in which applications are open (listed above) shall be displayed for applicants
7. Applicants should have the ability to upload required documents in PDF form
    a. These include; reference letters, resume, transcripts, Statement of Purpose
8. Applicants shall be able to pay application fee through a secure Credit transaction
9. Applications shall not be accepted by the system until payment is verified
10. Users shall receive an email notification when their application is accepted/rejected
11. Rejection emails should specify in detail the reason for rejection
12. Acceptance emails should specify the program requirements for Master's studies
13. Shall be able to accept/reject any offers made to them for the CS MSc Program

### 3.2.3 School of Computer Science
14. Should have access to an inbox for viewing applications that have been sent to it by the Graduate Studies Office
15. Should receive an email notification when a new application is received
16. Can access accepted applicant's financial support related information
17. Can send admission offers detailing financial support information to students

### 3.2.4 MSc Admissions Committee
18. Should have access to an inbox for viewing applications that have been sent to it by the Graduate Studies Office
19. Should receive an email notification when a new application is received
20. Should be able to forward approved applications to the student's desired supervisor
21. Should be notified when applicants that have been rejected or accepted by supervisor
22. Can view applications which have been approved by supervisors
23. Should be able to sort applications by new, awaiting approval, approved by supervisor, and rejected by supervisor
24. Should have the ability to delete rejected applications from inbox

### 3.2.5 Supervisor
25. Should have access to an inbox of applications that have been forwarded to them
26. Should receive an email notification when a new application is received
27. Shall have the ability to accept or reject a supervisor position over requested applicants

### 3.2.6 Graduate Studies Office
28. Shall be able to confirm a student's acceptance of offers of admission
29. Shall be able to view a student's file to determine if program requirements are met
30. Shall be able to reject an applicant if requirements are not met
31. Shall be able to send offers of admission to accepted applicants which outlines conditions of offer
32. Shall be able to generate a Grad Student file for any newly approved student's

# 3.3 User Requirements for Graduate Studies Management

**About:** *This segment of the program is used for managing Graduate Student's studies and progress towards graduation*

**Actors:** *Graduate Student, Supervisor, School of CompSci, Office of Graduate Studies*

### 3.3.1 Graduate Student
1. Should be able view all available CS MSc seminars along with dates and times for each
2. Should be able register to attend CS MSc seminars
3. Should view the list of seminars for which the their attendance has been confirmed
4. Should receive an email notification if grade average falls below the minimum of 70%
5. Should have the ability to sign up for a coop placement if conditions are met:
    a. Should be a full-time student in the Master's program in Computer Science
    b. Should have completed a minimum of one study term
    c. Should not on a leave of absence in the two terms immediately prior to the work terms
    d. Should have at least one semester of study remaining upon completion of work terms
    e. Should have obtained written permission from their supervisor
    f. Should have their placement(s) confirmed by the Centre for Career Education
6. Should be able to book an appointment with their supervisor
7. Should be able to confirm an appointment scheduled of which they are participants of
8. Should be able to reschedule any appointments which they are participants of
9. Should only be able to reschedule within 24 hours of scheduled appointment
10. Should be able to view a list of available courses for which they qualify
11. Should have access to a timetable showing registered courses and time for each
12. Should be able to upload an Annual Report in PDF format at the end of each year of study
13. Should be provided with detailed instructions of the requirements for the Annual Report
14. Should receive an email notification a month before the end of each study year reminding them to fill out an Annual Report
15. Should be able to pay any outstanding tuition fees
16. Any fees should be payable using a credit card
17. Should be able to submit their thesis
18. Should be able to schedule a defense of thesis for 3 months after submitting

### 3.3.2 School of Computer Science
19. Should have access to the student files of all CS MSc Students
20. Should be able to confirm each student's attendance at seminars
21. Should be able to view which seminars students have attended

### 3.3.3 Supervisor
22. Should be able to register students whom they supervise in courses

23. Should be able to book appointments with students whom they supervise
24. Should be able to view all available courses for that their students qualify for
25. Should be able to view the timetables of students whom they supervise
26. Should receive an email notification when a student whom they supervise has a grade average below 70%
27. Should be able to confirm appointments requested with them by their student's
28. Should be able to reschedule any appointments of which they are participants
29. Should only be able to reschedule within 24 hours of scheduled appointment

### 3.3.4 Office of Graduate Studies
30. Should be able to view all Annual Reports submitted by graduate students
31. Should be able to view all Student files of graduate students

# *Chapter 4:* System Requirements

### 4.1 General
1. The program should function fully on Chrome, Firefox and Safari Browsers
2. The system should not crash anymore then 1 time each week
3. The system should backup its user data every 24 hours
4. If data loss occurs, the system shall revert to the most recent backup
5. System downtime must be limited to no more than 1 hour each week
6. The system shall prompt users to enter login credentials when entering the system
7. System shall verify login credentials using the existing uwindsor account services
8. Rejected applications should be automatically removed from the system within 24hrs
9. Approved applications should be automatically removed from the system after a year
10. The system shall allow Graduate Students to register in up to 5 courses
11. The system shall allow Graduate Students to register in up to 18 seminars
12. The system shall allow Supervisors to supervise up to 10 students at a time
13. The system shall verify no scheduling conflicts exist before registering Graduate Students in courses or seminars
14. Courses shall be limited to 30 Graduate Students per course
15. Seminars shall be limited to 50 Graduate Students per seminar
16. The system shall only accept up to 100 new Graduate Students per year
17. The system shall delete any Graduate Students that fail to meet graduate requirements
18. The system shall limit uploaded files to 10 megabytes in size
19. The system shall automatically logout users after 10 minutes of inactivity

### 4.2 Notifications
20. Notifications shall be sent using the existing UWindsor email service
21. Notifications shall be sent from the account "Notify_ComputerMSc@uwindsor.ca"
22. Any sent notifications should be received within an hour of sending by the recipient
23. System shall notify the Graduate Student and their supervisor if grade average falls below minimum of 70%

24. System shall send an email notifying applicants when their application is accepted/rejected
25. When applications are forwarded to a new user, system shall notify that user
26. Should send a reminder to Grad Students reminding them to fill out an Annual Report
27. Reminders to fill out annual report shall be sent a month before the end of each study year
28. If appointments are scheduled participants shall be sent a notification detailing the time
29. If appointments are confirmed participants shall be sent a notification confirming date/time
30. If appointments are rescheduled participants shall be sent a notification detailing new time

# *Chapter 5: Use Cases*

## 6.1 Use Case for Accepting applications

***About:*** *This segment of the program requirements are related to the initial application process for the CS MSc program*

***Actors:*** *Student Applicants, School of Computer Science, MSc Admission Committee, Supervisors, Graduate Studies Office*
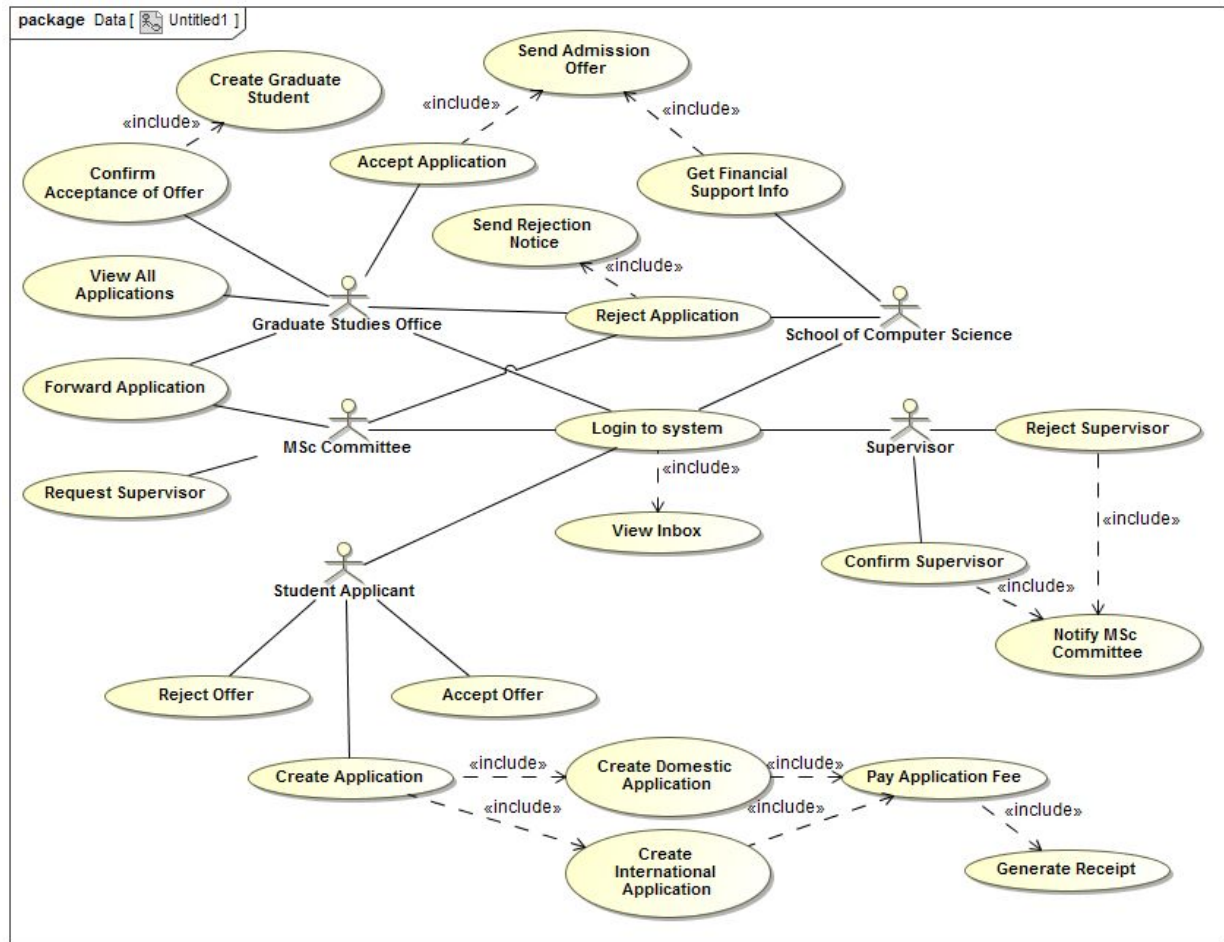
## 6.2 Use Case for CS MSc Management

**About:** *This segment of the program is used for managing Graduate Student's studies and progress towards graduation*

**Actors:** *Graduate Student, Supervisor, MSc Admission Committee, Office of Graduate Studies*
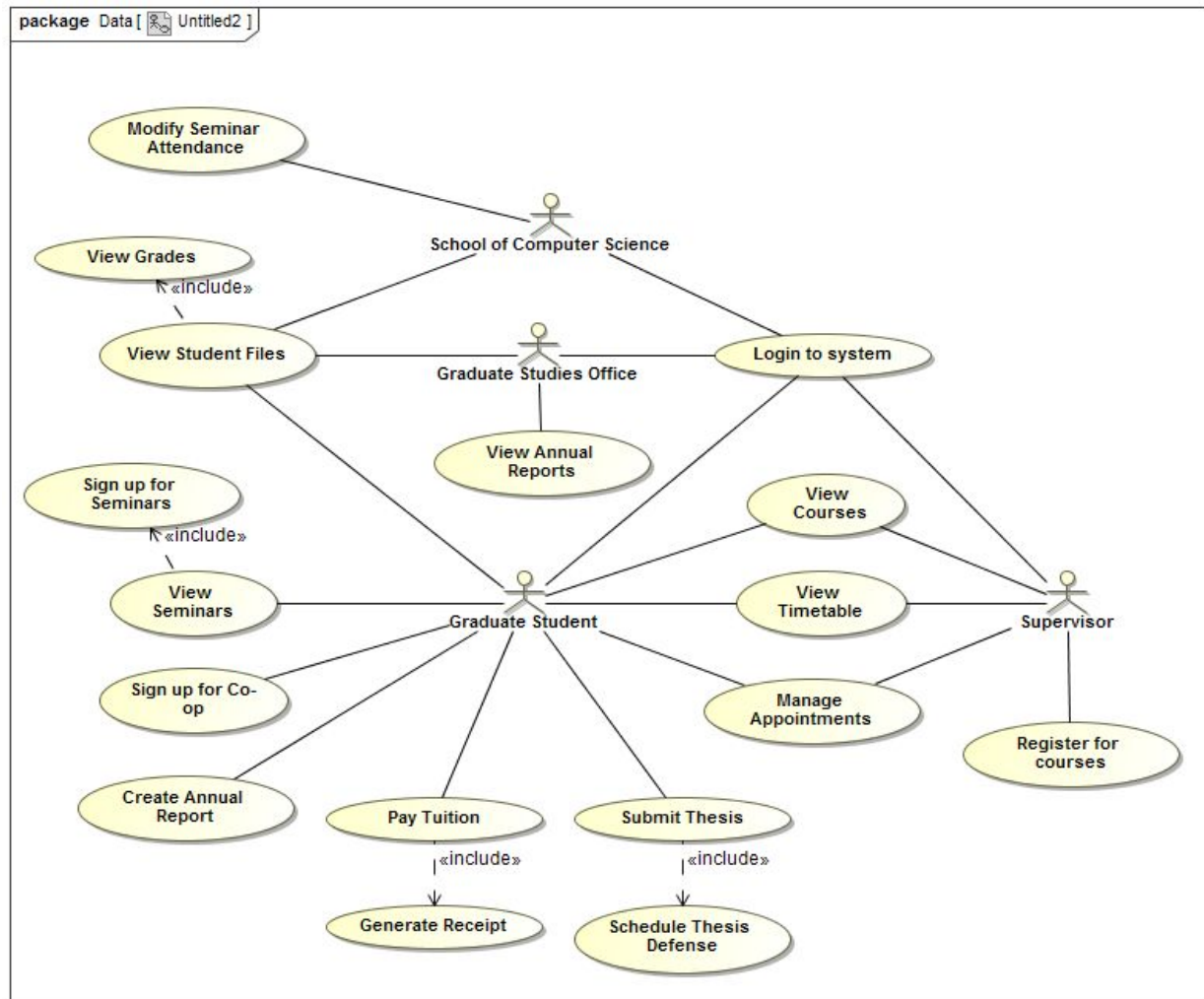
# Chapter 7: Class Diagrams

### 7.1 System Accounts

The Class diagram below shows the structure of all the system accounts and their actions.

## 7.1.1 Person

Person and its subclasses represent all persons that may log into the CS MSc Program

## package Data [ ⊞ Untitled3 ]

**Person**

*attributes*
-Name : String
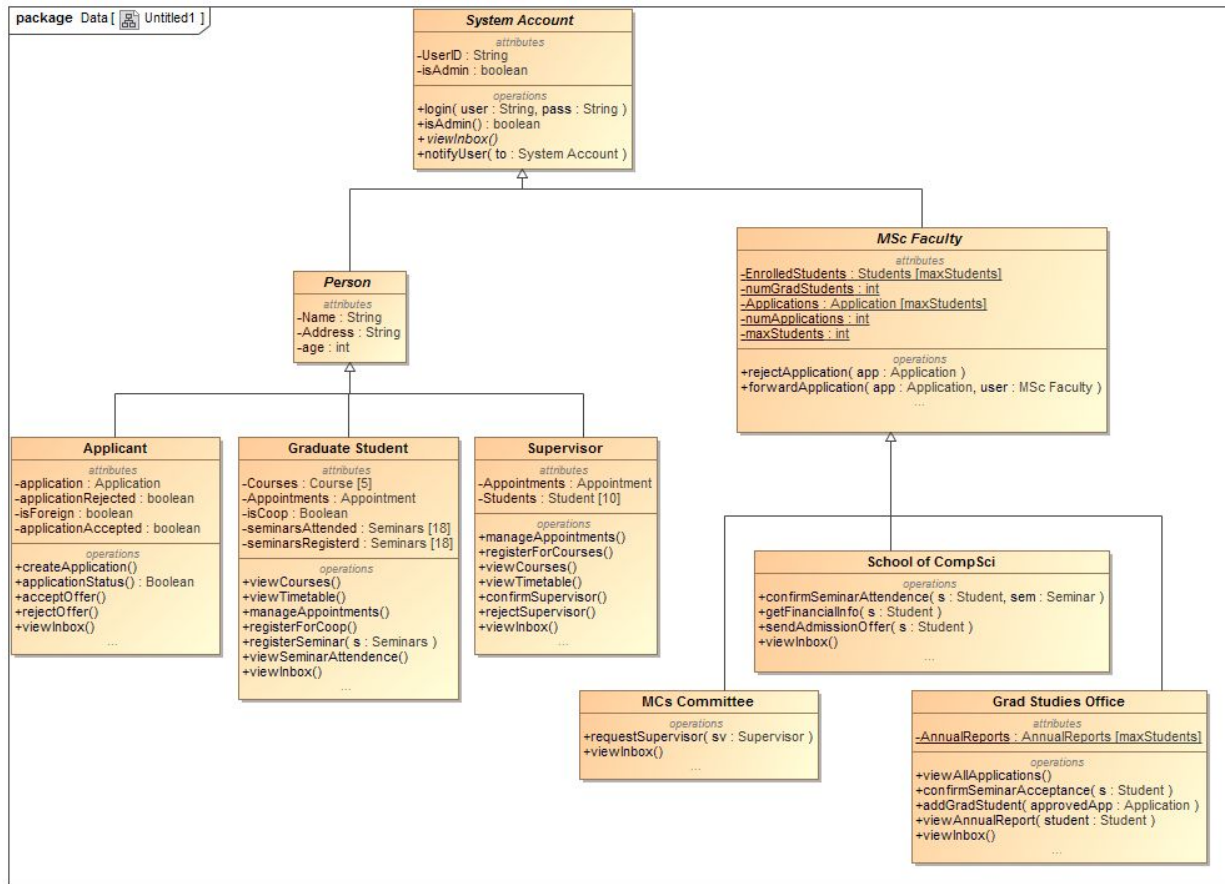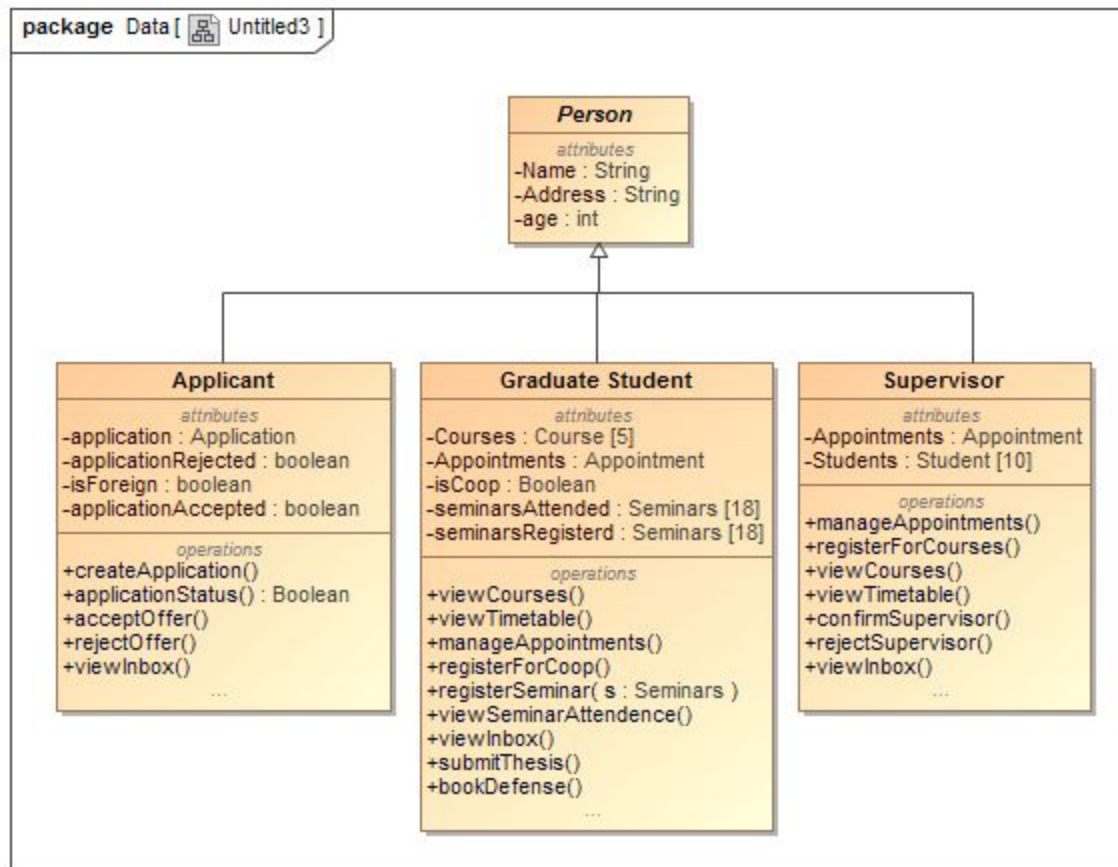-Address : String
-age : int

---

**Applicant**

*attributes*
-application : Application
-applicationRejected : boolean
-isForeign : boolean
-applicationAccepted : boolean

*operations*
+createApplication()
+applicationStatus() : Boolean
+acceptOffer()
+rejectOffer()
+viewInbox()
...

---

**Graduate Student**

*attributes*
-Courses : Course [5]
-Appointments : Appointment
-isCoop : Boolean
-seminarsAttended : Seminars [18]
-seminarsRegisterd : Seminars [18]

*operations*
+viewCourses()
+viewTimetable()
+manageAppointments()
+registerForCoop()
+registerSeminar( s : Seminars )
+viewSeminarAttendence()
+viewInbox()
+submitThesis()
+bookDefense()
...

---

**Supervisor**

*attributes*
-Appointments : Appointment
-Students : Student [10]

*operations*
+manageAppointments()
+registerForCourses()
+viewCourses()
+viewTimetable()
+confirmSupervisor()
+rejectSupervisor()
+viewInbox()
...

### 7.1.2 MSc Faculty

MSc Faculty and its subclasses represent all faculty members that log into the CS MSc Program

**package** Data [ Untitled4 ]

**MSc Faculty**

*attributes*
-EnrolledStudents : Students [maxStudents]
-numGradStudents : int
-Applications : Application [maxStudents]
-numApplications : int
-maxStudents : int

*operations*
+rejectApplication( app : Application )
+forwardApplication( app : Application, user : MSc Faculty )
...

**Grad Studies Office**

*attributes*
-AnnualReports : AnnualReports [maxStudents]

*operations*
+viewAllApplications()
+confirmSeminarAcceptance( s : Student )
+addGradStudent( approvedApp : Application )
+viewAnnualReport( student : Student )
+viewInbox()
...

**School of CompSci**

*operations*
+confirmSeminarAttendence( s : Student, sem : Seminar )
+getFinancialInfo( s : Student )
+sendAdmissionOffer( s : Student )
+viewInbox()
...

**MCs Committee**

*operations*
+requestSupervisor( sv : Supervisor )
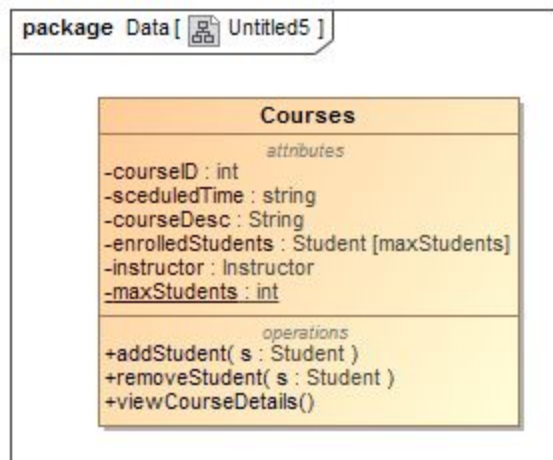+viewInbox()
...

## 7.2 Application

Application and its subclasses represent the possible applications that may be filled out as well as holds all required documents
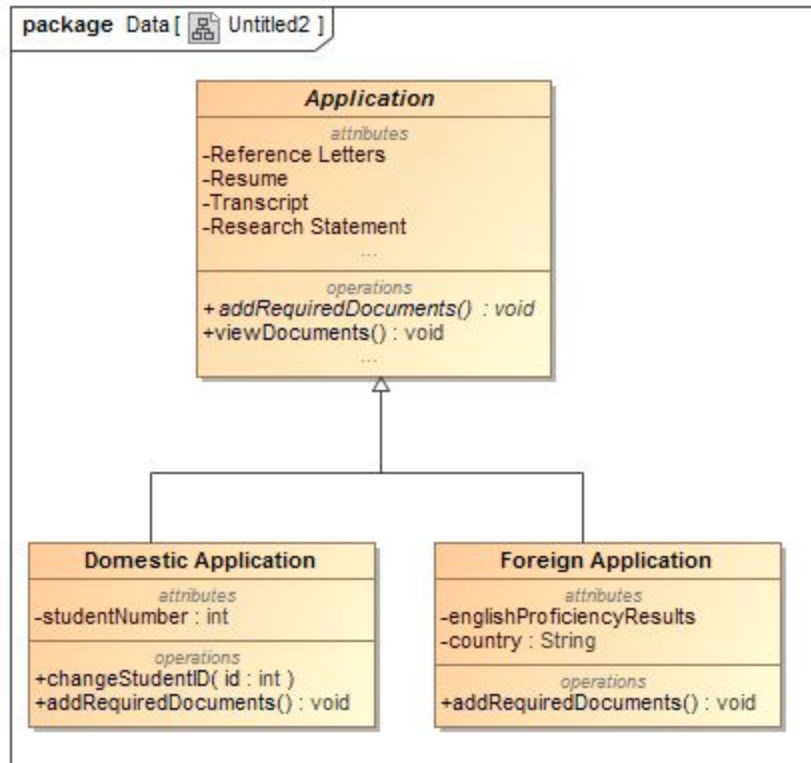
## 7.3 Courses

Courses represent the possible courses that Grad Students may register for



## 7.3 Seminars

Seminars represent the possible seminars that Grad Students may register for

**package** Data [ ▦ Untitled6 ]

**Seminars**

*attributes*
-seminarNumber : int
-seminarDesc : String
-maxStudents : int
-registerd : Student [maxStudents]
-date : Date

*operations*
+addStudent( s : Student )
+removeStudent( s : Student )
+viewSeminarInfo()