**Case Study: Student Information System**

**Context:**

You are required to develop a console-based Student Information System using Core Java. The application will allow administrators to manage student records, course information, and enrollment operations. The application will utilize Java Collections for storing student and course information, implement Object-Oriented Programming principles, and include exception handling to manage potential errors.

**Requirements:**

**Features:**

1. **Add and Remove Students:**
   * Allow administrators to add new students to the system.
   * Allow administrators to remove students from the system.
2. **Update Student Details:**
   * Allow administrators to update details of existing students, such as name, address, and contact information.
3. **Add and Remove Courses:**
   * Allow administrators to add new courses to the system.
   * Allow administrators to remove courses from the system.
4. **Enroll and Drop Courses:**
   * Allow administrators to enroll students in courses.
   * Allow administrators to drop students from courses.

**Classes and Objects:**

1. **Student Class:**
   * Attributes: id, name, address, contactNumber.
   * Methods: Constructors, getters and setters, toString method.
2. **Course Class:**
   * Attributes: id, name, description, instructor, schedule.
   * Methods: Constructors, getters and setters, toString method.
3. **Enrollment Class:**
   * Attributes: id, studentId, courseId, enrollmentDate.
   * Methods: Constructors, getters and setters, toString method.
4. **StudentInformationSystem Class:**
   * Attributes: HashMap<Integer, Student> students, HashMap<Integer, Course> courses, ArrayList<Enrollment> enrollments.
   * Methods:
     + addStudent(Student student): Adds a new student to the system.
     + removeStudent(int studentId): Removes a student from the system.
     + updateStudent(int studentId, Student updatedStudent): Updates details of an existing student.
     + addCourse(Course course): Adds a new course to the system.
     + removeCourse(int courseId): Removes a course from the system.
     + enrollStudent(int studentId, int courseId): Enrolls a student in a course.
     + dropStudent(int studentId, int courseId): Drops a student from a course.
     + Helper methods for input validation and exception handling.

**Deliverables:**

1. Complete source code for the Student Information System.
2. Documentation including:
   * How to run the application.
   * Instructions for each feature.
   * Explanation of the exception handling implemented.
3. A brief report on the application design and how Object-Oriented principles were applied.