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*The Energy University*

**SEMESTER 1 2024/2025**

**COLLEGE:**  
COMPUTING AND INFORMATICS

**SUBJECTS:**  
CSEB5123: Advanced Web Application Development

**TOPIC:**  
Research Grant Management System

**LECTURER:**  
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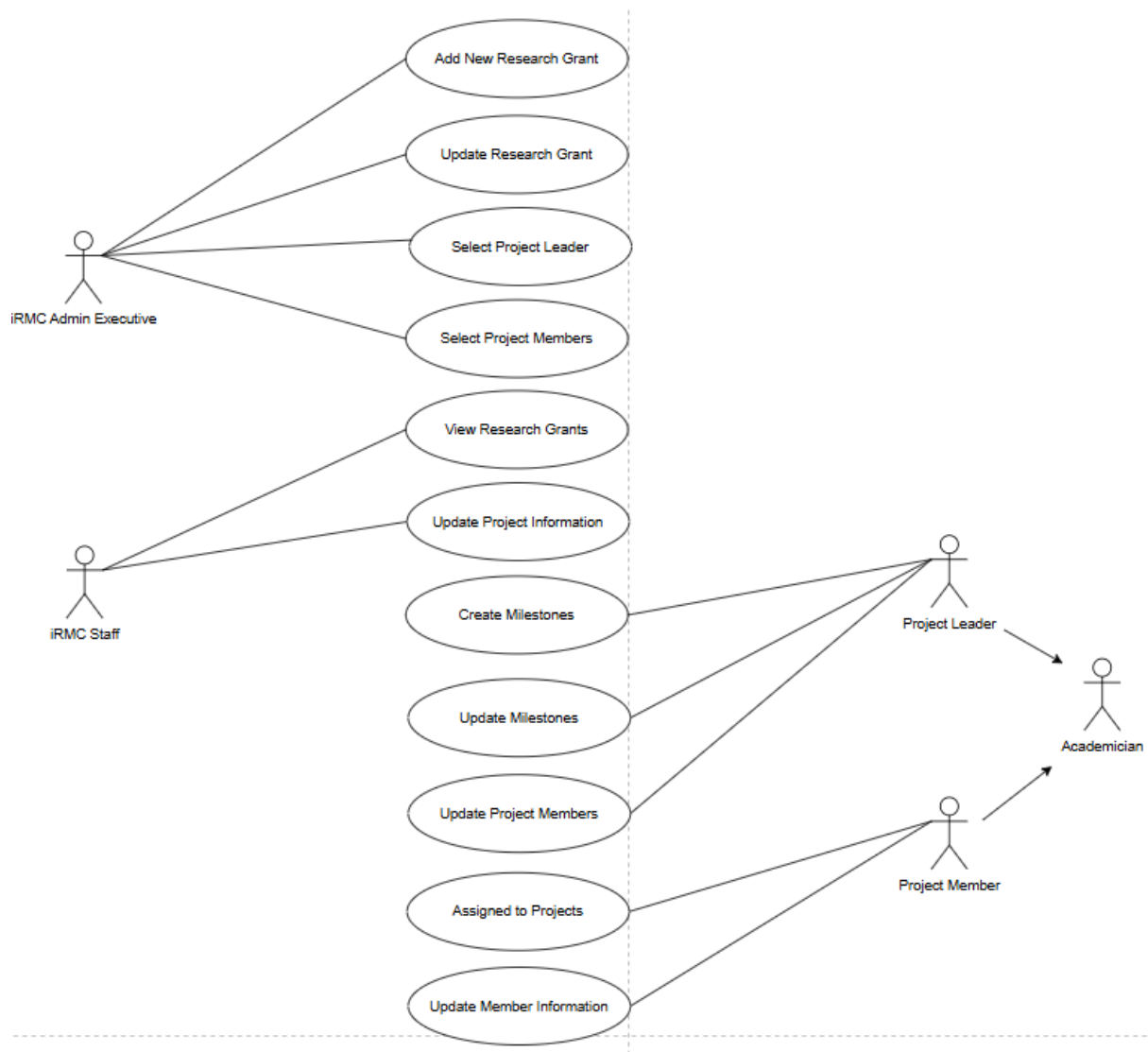
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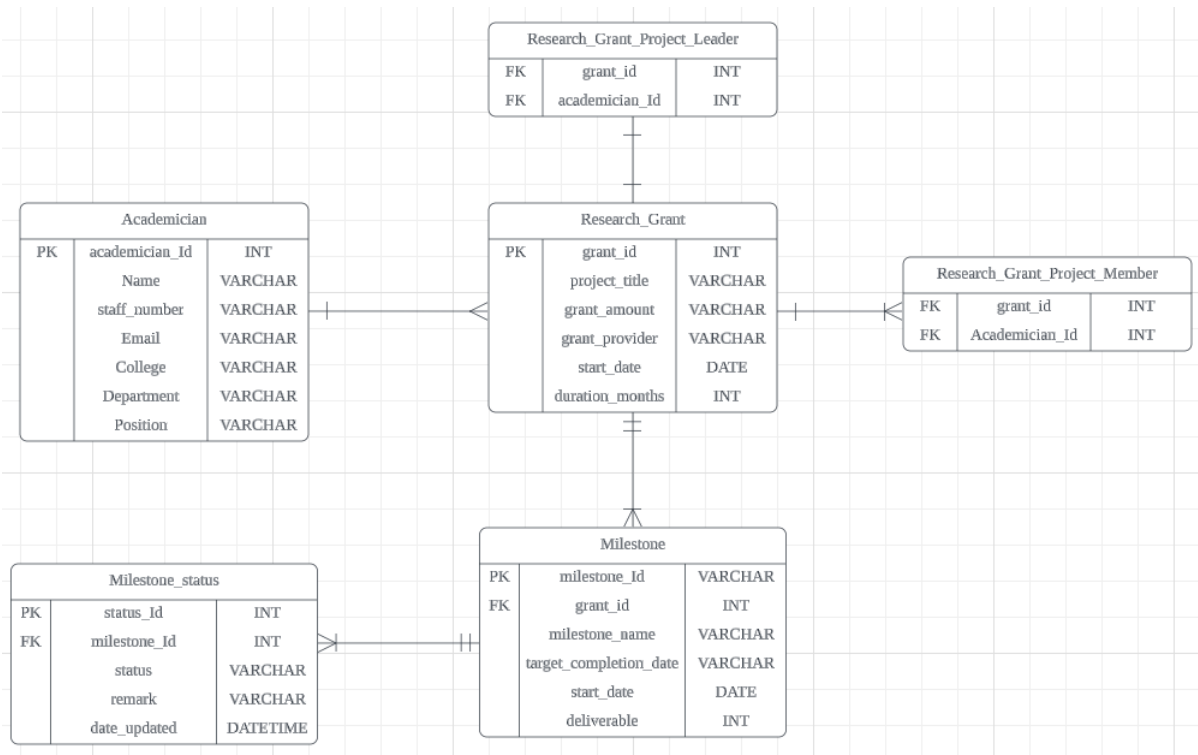
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## 1. Use Case Diagram



This use case diagram illustrates the interactions between different users and the Research Grant Management System. The iRMC Admin Executive is responsible for managing research grants by adding new grants, updating grant details, selecting project leaders and members, and viewing project information. The iRMC Staff can create and update project milestones, assign members to projects, and update member information as needed. Project Leaders, who are academicians, manage their assigned projects by creating milestones and tracking their progress. Meanwhile, Project Members, also academicians, assist in projects and can update their personal details. This system ensures efficient tracking of research grants, milestones, and team roles, promoting organized and collaborative project management.

## 2. Entity Relationship Diagram (ERD)



This ERD represents the database structure for a Research Grant Management System. The Academician table stores information about academicians, including their name, staff number, email, and position. A research grant is recorded in the Research\_Grant table, which includes details such as the project title, grant amount, provider, start date, and duration. Each grant is led by one Project Leader, represented by the Research\_Grant\_Project\_Leader table, and can have multiple Project Members, recorded in the Research\_Grant\_Project\_Member table. Milestones for each grant are tracked in the Milestone table, which stores milestone names, target completion dates, and deliverables. Updates on milestone progress are saved in the Milestone\_Status table, including the status, remarks, and update date. The relationships link academicians to grants as leaders or members and connect milestones to grants, enabling effective tracking of project details and progress.