# HCI Assignment 1 Explanation

### Attribute Explanation

* **School Attributes**: Represents a school/faculty, includes its name for identification, head for administrative contact, and location for physical whereabouts.
* **Course Attributes**: Represents a course, includes its name, coordinator for oversight responsibility, credits for academic value, and a link to the offering school/faculty for organizational structure.

### Data Type Explanation

* **Textual Information (CharField)**: Used for names, head, and coordinator to store variable-length strings, fitting for names and titles.
* **Numerical Value (IntegerField)**: Credits are stored as integers to represent the quantifiable value of a course and allow for arithmetic operations.
* **Relational Field (ForeignKey)**: Establishes a direct link from each course to its offering school, indicating ownership and allowing easy navigation between related records.

### Relationship Explanation

A one-to-many relationship between **School** and **Course** models reflects the real-world scenario where a school offers multiple courses. Implemented using a **ForeignKey** in the **Course** model, this setup ensures each course is tied to one school, allowing for efficient data management and retrieval, aligning with the organizational structure of university offerings.

## CRUD Explanation

### Head of the School

**Permissions:** Create, Read, Update, and Delete for both Schools and Courses.

**Justification:** As the highest authority within a school, the Head needs full control over the information related to their school and the courses it offers, including the ability to introduce new courses, update existing ones, or remove outdated courses.

### Course Coordinator

**Permissions:** Read and Update for Courses.

**Justification:** Coordinators are responsible for managing their course. They need to update course information to reflect changes where necessary.

**NOTE:** It is worth noting that the 'Course Coordinator' field was omitted from the Courses model. This decision was since the official Curtin University course catalogue does not provide specific details on course coordinators.

### Website Visitors

**Permissions:** Read for Schools and Courses.

**Justification:** Visitors, including potential and current students, need access to information about schools and available courses to make informed decisions. However, they should not be able to modify any information, maintaining data integrity.

## Benefits of Using Django

### Security

Django comes with built-in security features that help protect against many common security threats like SQL injection, cross-site scripting, and cross-site request forgery. Utilizing Django for this app ensures that these security measures are automatically enforced, reducing the risk of vulnerabilities in the system handling sensitive educational data.

### Ease of Development

Django's "batteries-included" approach provides a comprehensive standard library and tools such as an ORM, authentication, and template engine right out of the box. This accelerates the development process for the university course management system by allowing developers to focus on building features rather than setting up and configuring basic components.

## References

* 1. Fattah, S. M. M. (2024). Django Models Admin & Templates. School of Electrical Engineering, Computing and Mathematical Sciences (EECMS), Curtin University.
  2. Fattah, S. M. M. (2024). Advanced Django Topics. School of Electrical Engineering, Computing and Mathematical Sciences (EECMS), Curtin University.
  3. Django Software Foundation. (n.d.). Django documentation. Django. Retrieved [insert date here], from <https://docs.djangoproject.com/en/stable/>
  4. Vincent, W. S. (2018). Django for beginners: Build websites with Python and Django. William S. Vincent from  
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