Here’s a complete data dictionary for all tables in **business\_hub2**, formatted like your example. Each table shows the column name, data type, a brief description, and any key constraints. Citations point to the relevant CREATE TABLE and ALTER TABLE snippets from your SQL dump.

**Academic Staff Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique academic staff identifier | PK, Not Null, AUTO\_INCREMENT |
| **name** | VARCHAR(255) | Full name of the staff member |  |
| **email** | VARCHAR(255) | Staff email address |  |
| **linkedin** | VARCHAR(255) | LinkedIn profile URL |  |
| **image** | TEXT | Filename or URL of profile image |  |
| **office\_location** | VARCHAR(255) | Office location description |  |
| **department\_id** | INT(11) | References departments.id | FK → departments(id) |

**Departments Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique department identifier | PK, Not Null, AUTO\_INCREMENT |
| **department\_name** | VARCHAR(100) | Name of the department | Not Null |
| **description** | TEXT | Optional department description |  |

**Users Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique user identifier | PK, Not Null, AUTO\_INCREMENT |
| **first\_name** | VARCHAR(100) | User’s given name |  |
| **last\_name** | VARCHAR(100) | User’s family name |  |
| **avatar\_url** | VARCHAR(255) | URL to user’s avatar image |  |
| **email** | VARCHAR(255) | Login email (must be unique) | UNIQUE KEY(email) |
| **phone** | VARCHAR(20) | 10-digit phone number |  |
| **password** | VARCHAR(255) | Hashed password |  |
| **role** | ENUM('user','super\_admin') | Permission level | DEFAULT 'user' |
| **created\_at** | TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP | Account creation timestamp |  |
| **is\_blocked** | TINYINT(1) NOT NULL DEFAULT 0 | Whether account is blocked |  |

**Messages Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique message identifier | PK, Not Null, AUTO\_INCREMENT |
| **conversation\_id** | INT(11) | References conversations.id | Not Null, FK → conversations(id) |
| **sender\_id** | INT(11) | References sending user’s id | Not Null, FK → users(id) |
| **content** | TEXT | Message text | Not Null |
| **created\_at** | DATETIME NOT NULL DEFAULT CURRENT\_TIMESTAMP | When message was sent |  |
| **edited\_at** | DATETIME | When message was last edited |  |
| **is\_deleted** | TINYINT(1) NOT NULL DEFAULT 0 | Soft-delete flag |  |
| **deleted\_at** | DATETIME | When message was deleted |  |
| **deleted\_by** | INT(11) | References user who deleted it | FK → users(id) |

**Message Edits Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique edit identifier | PK, Not Null, AUTO\_INCREMENT |
| **message\_id** | INT(11) | References edited message id | Not Null, FK → messages(id) |
| **editor\_id** | INT(11) | References user who edited | Not Null, FK → users(id) |
| **old\_content** | TEXT | Original message text | Not Null |
| **edited\_at** | DATETIME NOT NULL DEFAULT CURRENT\_TIMESTAMP | When the edit occurred |  |

**Notifications Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique notification identifier | PK, Not Null, AUTO\_INCREMENT |
| **user\_id** | INT(11) | Actor user (who performed an action) | FK → users(id) |
| **receiver\_id** | INT(11) | Recipient user of the notification | FK → users(id) |
| **action\_id** | INT(11) | Related book\_requests.id | FK → book\_requests(id) |
| **type** | VARCHAR(100) | Notification type (e.g. 'book\_request') |  |
| **message** | TEXT | Text of the notification |  |
| **is\_read** | TINYINT(1) DEFAULT 0 | Read flag |  |
| **is\_deleted** | TINYINT(1) NOT NULL DEFAULT 0 | Soft-delete flag |  |
| **created\_at** | TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP | When it was created |  |

**Conversations Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique conversation identifier | PK, Not Null, AUTO\_INCREMENT |
| **user1\_id** | INT(11) | One participant (lower-ID user) | Not Null, FK → users(id) ON DELETE CASCADE |
| **user2\_id** | INT(11) | The other participant (higher-ID user) | Not Null, FK → users(id) ON DELETE CASCADE, UNIQUE(user1\_id,user2\_id) |
| **related\_request\_id** | INT(11) | If tied to a book request | FK → book\_requests(id) ON DELETE SET NULL |
| **created\_at** | DATETIME NOT NULL DEFAULT CURRENT\_TIMESTAMP | When conversation was started |  |
| **last\_message\_at** | DATETIME | Timestamp of most recent message | Triggered by insert on messages |

**Courses Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique course identifier | PK, Not Null, AUTO\_INCREMENT |
| **department\_id** | INT(11) | Department offering the course | FK → departments(id) |
| **course\_name** | VARCHAR(255) | Title of the course |  |
| **course\_link** | TEXT | URL to external course resource |  |
| **course\_description** | TEXT | Summary or outline of the course |  |

**Book Exchange Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique book-exchange listing identifier | PK, Not Null, AUTO\_INCREMENT |
| **book\_name** | VARCHAR(255) | Title of the book |  |
| **image** | VARCHAR(255) | URL to book cover image |  |
| **department\_id** | INT(11) | Department to which the book belongs | FK → departments(id) |

**Books Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique book record identifier | PK, Not Null, AUTO\_INCREMENT |
| **department\_id** | INT(11) | Department offering the book | FK → departments(id) |
| **year** | ENUM('1','2','3','4') NOT NULL DEFAULT '1' | Year level |  |
| **book\_name** | VARCHAR(255) | Title of the book |  |
| **book\_material** | TEXT | URL or description of the material |  |

**Book Offers Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique offer identifier | PK, Not Null, AUTO\_INCREMENT |
| **book\_id** | INT(11) NOT NULL | References a book in book\_exchange | FK → book\_exchange(id) |
| **user\_id** | INT(11) NOT NULL | User who is offering the book | FK → users(id) |
| **desired\_book\_id** | INT(11) | If exchanging, the desired book offer | FK → book\_exchange(id) |
| **details** | TEXT | Additional notes about the offer |  |
| **timestamp** | DATETIME DEFAULT current\_timestamp() | When the offer was posted |  |
| **status** | ENUM('active','dropped','exchanged') NOT NULL DEFAULT 'active' | Current state of the offer |  |

**Book Requests Table**

| **Column** | **Type** | **Description** | **Constraints** |
| --- | --- | --- | --- |
| **id** | INT(11) | Unique request identifier | PK, Not Null, AUTO\_INCREMENT |
| **offer\_id** | INT(11) | References the related book offer | FK → book\_offers(id) |
| **requester\_id** | INT(11) | User requesting the book | FK → users(id) |
| **status** | ENUM('pending','accepted','rejected','canceled') NOT NULL DEFAULT 'pending' | Current state of the request |  |
| **timestamp** | DATETIME DEFAULT current\_timestamp() | When the request was made |  |

This should cover every table in your dump, with column types, purposes, and all primary/foreign-key or unique constraints clearly laid out. Let me know if you need any tweaks or additions!