**1. Kotlin Fundamentals**

* syntax, basic data types, operators;
* functions, extension functions;
* classes, interfaces, sealed classes;
* exception handling;
* collections and working with them (map, filter, reduce);
* coroutines (suspend, async/await, flow).

**2. Android Development Basics**

* Android project structure (manifest, resources, Gradle);
* Activity and Fragment lifecycle;
* ViewModel, LiveData, StateFlow;
* working with RecyclerView, ViewBinding, Jetpack Compose;
* resource management (strings.xml, colors.xml, dimens.xml).

**3. Architectural Patterns**

* **MVVM (Model-View-ViewModel)** – the primary pattern in modern Android development;
* **Clean Architecture** – separating logic into layers (data, domain, presentation);
* **Dependency Injection (DI)** – Hilt, Dagger.

**4. Data Management**

* local databases (Room, DataStore);
* network communication (Retrofit, OkHttp);
* JSON serialization (Moshi, Gson);
* data storage (SharedPreferences, EncryptedSharedPreferences).

**5. Asynchronous Programming & Multithreading**

* **Coroutines** (suspend, withContext, launch, async);
* **Flow & StateFlow** – reactive data streams;
* **WorkManager** – background tasks.

**6. UI & Animations**

* **Jetpack Compose** (modern UI framework);
* classic XML + ViewBinding;
* ConstraintLayout, MotionLayout;
* custom View;
* animations (ObjectAnimator, Lottie).

**7. Tools & DevOps**

* **Git** – version control (GitHub, GitLab, Bitbucket);
* **Gradle** – dependency management;
* **Firebase** – analytics, push notifications (FCM);
* **Crashlytics** – error tracking;
* **CI/CD** – automated builds (GitHub Actions, Fastlane).

**8. Additional Topics**

* Android Permissions (Camera, Location, Foreground Services);
* working with Google Play Console, publishing apps;
* testing (JUnit, MockK, Espresso);
* performance optimization (Profiling, StrictMode, R8).