

# UML Class Diagrams: Entity Classes

```
classDiagram
class Engineer {
    - name: String
    - assignedTasks: List~Task~
    + assignTask(task: Task)
    + completeTask(task: Task, actualMinutes: int)
    + getTotalEstimatedMinutes() int
    + getAssignedTasks() List~Task~
}

class Task {
    - title: String
    - estimatedMinutes: int
    - actualMinutes: int
    - assignedEngineer: Engineer
    - isCompleted: bool
    + assignTo(engineer: Engineer)
    + markCompleted(actualMinutes: int)
    + getStatus() String
}

class TaskManager {
    - engineers: List~Engineer~
    - tasks: List~Task~
    - completedTasks: List~Task~
    + addEngineer(engineer: Engineer)
    + removeEngineer(engineer: Engineer)
    + addTask(task: Task)
    + removeTask(task: Task)
    + assignTask(task: Task, engineer: Engineer)
    + completeTask(task: Task, actualMinutes: int)
    + getUnassignedTasks() List~Task~
    + getTotalEstimatedMinutesUnassigned() int
    + getTotalEstimatedMinutesByEngineer(engineer: Engineer) int
    + getTotalActualMinutesCompleted() int
}

Engineer "1" -- "*" Task : assigns
Task "*" -- "1" Engineer : assigned to
TaskManager "1" -- "*" Engineer : manages
TaskManager "1" -- "*" Task : manages
```