The second subquery (after the except) is getting all the courses that the student takes. These are removed from all courses in the biology department. So, if a student took all courses in that department, the result would be no rows. Otherwise, the result are the rows the student did not take.

NOT EXISTS simply asserts that the following set/subquery is empty. Therefore, if the student has taken all of the biology classes, the NOT EXISTS (...) clause evaluates as true, and the student record being evaluated is included in the result set. The results should not print out all of the biology courses, the results should be all of the students *who have taken****all****of the biology courses*

The table is as follows:  
student(ID, name, dept\_name,tot\_cred)  
takes(ID, course\_id, sec\_id, semester, year, grade)  
course(course\_id, title, dept\_name, credits)

The sub query gets all biology classes minus the ones taken by a student. Left are the biology classes that the student has not taken. The main query says hence: give me all students that don't have any untaken biology classes. The DISTINCT is superfluous, as there must be no duplicate students in a student table of course. I must say that this makes me put your book into question. Paving each and every query with unnecessary DISTINCT is a typical beginners' issue

**select distinct** *S*.*ID*, *S*.*name*

**from** *student* **as** *S*

**where not exists** ( (**select** *course\_id*

**from** *course*

**where** *dept\_name* = ’Biology’)

**except**

(**select** *T*.*course\_id*

**from** *takes* **as** *T*

**where** *S*.*ID* = *T*.*ID*));