

# ECSE 321 - Intro to Software Engineering Design Specification Document - Deliverable 3

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# Part I

## Unit Tests

# 1 Course Unit Test

## METHOD UNDER TEST: Constructor

\*Note: For cases in which a message, stating for a wrong input, is output from the system, then the changes/creations/deletions of objects should not persist.

### Test Cases For: className Inputs

Test Cases for Constructor	className Input	cdn Input	TimeBudget Input
Test Case no.1	null	101	10.00
Test Case no.2	""	101	10.00
Test Case no.3	"1234567890"	101	10.00
Test Case no.4	" "	101	10.00

Test Cases for Constructor	Expected Output
Test Case no.1	Course name cannot be empty!
Test Case no.2	Course name cannot be empty!
Test Case no.3	(className gets saved in persistence layer)
Test Case no.4	Course name cannot be empty!

### Test Cases For: cdn Inputs

Test Cases for Constructor	className Input	cdn Input	TimeBudget Input
Test Case no.5	ECSE	101 and 101	10.00
Test Case no.6	ECSE	null	10.00
Test Case no.7	ECSE	-1	10.00
Test Case no.8	ECSE	"one hundred and one"	10.00
Test Case no.9	ECSE	" "	10.00

Test Cases for Constructor	Expected Output
Test Case no.5	Cannot input Non-Unique CDN!
Test Case no.6	Cannot input empty CDN!
Test Case no.7	CDN must be positive!
Test Case no.8	Cannot input alphabetical characters for CDN!
Test Case no.9	Cannot input empty CDN!

### Test Cases For: graderTimeBudget/taTimeBudget Inputs

Test Cases for Constructor	className Input	cdn Input	TimeBudget Input
Test Case no.10	ECSE	101	null
Test Case no.11	ECSE	101	""
Test Case no.12	ECSE	101	"ten"
Test Case no.13	ECSE	101	-10.00

Test Cases for Constructor	Expected Output
Test Case no.10	Cannot input empty TimeBudget!
Test Case no.11	Cannot input empty TimeBudget!
Test Case no.12	Cannot input alphabetical characters for TimeBudget!
Test Case no.13	Grader Budget must be positive! TA Budget must be positive!

**METHOD UNDER TEST: addJob****Test Cases For: addJob Inputs**

Test Cases	startTime	endTime	Day	Salary	Requirements	Instructor
Test Case no.14	null	null	null	null	null	null
Test Case no.15	10:00	15:00	Monday	15.00	Bachelors	Default Instructor

Test Cases	Expected Output
Test Case no.14	Invalid Input for Job!
Test Case no.15	(Job gets saved in persistence layer)

**METHOD UNDER TEST: addJobAt****Test Cases For: addJobAt Inputs**

Test Cases	Job1 Input	Index1 Input	Job2 Input	Index2 Input
Test Case no.16	Job1	null	Job2	null
Test Case no.17	Job1	1	Job2	1

Test Cases	Expected Output
Test Case no.16	Cannot add Job at null index!
Test Case no.17	Cannot add Job at occupied index!

**METHOD UNDER TEST: addOrMoveJobAt****Test Cases For: addOrMoveJobAt Inputs**

Test Cases	Job Input	Index Input	New Index Input
Test Case no.18	Job	1	2
Test Case no.19	Job	1	0

Test Cases	Expected Output
Test Case no.18	(Job gets moved to a new index successfully)
Test Case no.19	(Job gets moved to a new index successfully)

## 2 Job Unit Test

**\*Note:** Since the Classes Tutorial and Laboratory inherit from the Job class; the test cases for these two classes will be identical to the Job Class. The inputs aCourse and aInstructor are simply valid Course and Instructor inputs.

### **METHOD UNDER TEST: Constructor**

#### **Test Cases For: startTime and endTime Inputs**

Test Cases	startTime	endTime	Day	Salary	Requirements	Course	Instructor
Test Case no.1	null	null	Monday	10.00	Bachelors	aCourse	aInstructor
Test Case no.2	""	""	Monday	10.00	Bachelors	aCourse	aInstructor
Test Case no.3	10:00	9:00	Monday	10.00	Bachelors	aCourse	aInstructor
Test Case no.4	21:00	22:00	Monday	10.00	Bachelors	aCourse	aInstructor

Test Cases	Expected Output
Test Case no.1	Input Time cannot be empty!
Test Case no.2	Input Time cannot be empty!
Test Case no.3	startTime cannot be before endTime!
Test Case no.4	Times cannot be outside working hours!

#### **Test Cases For: Requirements Inputs**

Test Cases	startTime	endTime	Day	Salary	Requirements	Course	Instructor
Test Case no.5	10:00	12:00	Monday	10.00	null	aCourse	aInstructor
Test Case no.6	10:00	12:00	Monday	10.00	""	aCourse	aInstructor
Test Case no.7	10:00	12:00	Monday	10.00	" "	aCourse	aInstructor

Test Cases	Expected Output
Test Case no.5	Requirements cannot be empty!
Test Case no.6	Requirements cannot be empty!
Test Case no.7	Requirements cannot be empty!

#### **Test Cases For: Course and Instructor Inputs**

Test Cases	startTime	endTime	Day	Salary	Requirements	Course	Instructor
Test Case no.8	10:00	12:00	Monday	10.00	PHD Student	null	aInstructor
Test Case no.9	10:00	12:00	Monday	10.00	PHD Student	aCourse	null

Test Cases	Expected Output
Test Case no.8	Invalid Course Input!
Test Case no.9	Invalid Instructor Input!

### Test Cases For: Salary Inputs

Test Cases	startTime	endTime	Day	Salary	Requirements	Course	Instructor
Test Case no.10	10:00	12:00	Monday	null	PHD Student	aCourse	aInstructor
Test Case no.11	10:00	12:00	Monday	” ”	PHD Student	aCourse	aInstructor
Test Case no.12	10:00	12:00	Monday	”ten10”	PHD Student	aCourse	aInstructor
Test Case no.13	10:00	12:00	Monday	-10	PHD Student	aCourse	aInstructor

Test Cases	Expected Output
Test Case no.10	Salary cannot be empty!
Test Case no.11	Salary cannot be empty!
Test Case no.12	Salary cannot have alphabetical characters!
Test Case no.13	Salary cannot be negative!

### Test Cases For: Day Inputs

Test Cases	startTime	endTime	Day	Salary	Requirements	Course	Instructor
Test Case no.14	10:00	12:00	null	10.00	PHD Student	aCourse	aInstructor
Test Case no.15	10:00	12:00	Saturday	10.00	PHD Student	aCourse	aInstructor

Test Cases	Expected Output
Test Case no.14	Date cannot be empty!
Test Case no.15	Date cannot be a weekend day!

### 3 Profile