**JAIPURIA INSTITUTE OF MANAGEMENT**
**PGDM; TRIMESTER I; ACADEMIC YEAR 2018-19**

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|---|---|
| Course Code and title | IT101 - Data Interpretation and Excel (DI&E) |
| Credits | 1.5 |
| Term and Year | I Term; Year: 2018-19 |
| Course Pre-requisite(s) | None |
| Course Requirement(s) | B mathematics ($X^{th}$ level) |
| Course Schedule (day and time of class) | As per time table released by PMC |
| Classroom # (Location) | Computer Lab /As per allotted by PMC |
| Course Instructor | Faculty Name |
| Course Instructor Email | As applicable |
| Course Instructor Phone (Office) | As applicable |
| Student Consultation Hours | 4:00 pm – 5:00 pm every Wednesday |
| Office location | Faculty room number |

**Course Overview:**
In the world of technology, companies collect tremendous amount of data with relative ease. Infact, both individuals and companies now have more data than they can handle. However, the data are usually meaningless until they are subject to transformation and interpretation. Understanding of data in way to be able to communicate and present the intended message is a challenge for any individual.

The course aims at helping the student to understand the tenets of data through the most popular analysis tool – MS-Excel. The objective of the course is to make student at ease with MS-Excel so as to re-organize the data to draw meaningful interpretations and possible conclusions out of it.

**Course Learning Outcome (CLO)**
At the end of the course, the students would be able to: -

CLO 1: Explain different types of data and its relevance in business. (K)

CLO 2: Demonstrate the ability to use MS-Excel for a meaningful data representation. (K & S)

CLO 3: Derive business understanding out of the data. (K, S & A)

**LINKAGE OF COURSE**
**Before:** The course links the learning attained by the students in class $X^{th}$ and take them to the next level of integrating the learning to business application.

**After:** The learnings of this course will be useful for other courses of core functional areas like, Statistics, Economics, and Marketing. The students will use the tools and knowledge provided in this course to analyses and report the data they will get in upcoming courses.

**MAPPING OF CLOS WITH KSA**

| CLOs | Knowledge (K) | Skills (S) | Attitude (A) |
|---|---|---|---|
| CLO 1 | X | | |
| CLO 2 | X | X | |
| CLO 3 | X | X | X |

**MAPPING OF CLOS WITH PLOS**

| CLOs/ PLOs | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 | PLO8 |
|---|---|---|---|---|---|---|---|---|
| | Communicate effectively and display interpersonal skills | Demonstrate leadership and teamwork towards achievement of organizational goals | Apply relevant conceptual frameworks for effective decision making | Develop an entrepreneurial mindset for optimal business solutions | Evaluate the relationship between business environment and organizations | Appreciate sustainable and ethical business practices | Leverage technology for business decisions | Demonstrate capability as an independent learner |
| **CLO1** | | | X | | X | | | |
| **CLO2** | | | X | X | | | X | X |
| **CLO3** | | | X | X | | | X | |

**MAPPING OF CLOS WITH GAS**

| CLOs/PLOs | GA1 | GA2 | GA3 | GA4 | GA5 | GA6 | GA7 | GA8 |
|---|---|---|---|---|---|---|---|---|
| | Self-initiative | Deep discipline knowledge | Critical thinking & Problem solving | Humility, Team-Building and Leadership Skills | Open and Clear Communication | Global outlook | Ethical competency &sustainable mindset | Entrepreneurial and innovative |
| **CLO1** | | X | X | | | | | |
| **CLO2** | | X | X | | | | | X |
| **CLO3** | | X | X | | | | | X |

**VED FRAMEWORK**

| Module<br>Pre-class<br>In-class<br>Beyond class | Vital<br>(prerequisite or basic knowledge or skills) | Essential<br>(Non-imperative yet significant) | Desirable<br>(adds substance, breadth, or interest to a subject or skill) |
|---|---|---|---|
| Module I: Understanding data and MS-Excel | Basic mathematical concepts (Xth level)<br><br>Data and its representation<br>MS-Excel basic understanding | Relevance and scope of data types<br>Data spread<br>Grouping of data into bins. | How data regulates analysis and in turn analytics industry. |
| Module II: Data description | Basics of sum, count, average, median and mode | Use of Analysis Tool Pack.<br><br>Interpreting data based on central tendency and spread. | How industry uses central tendency and spread for performing it basic operations. |
| Module III: Querying data | Using basic sorting and filtering techniques/Vlookup() | Appreciating different approaches to arrange and extract data | Develop understanding of how to extract, arrange and present data for further dissemination. |
| Module IV: Summarizing and presenting data | Conditional based grouping of data (if(), sumifs(), countis()) | Presenting it into graphical format | Finding out the most appropriate technique for presenting data |

**REFERENCES**

Case Studies

**SESSION PLANS:**

| S. No. | Topic /Sub topic | Session Details | |
|---|---|---|---|
| 1. | Module I: Understanding … data and its types | Readings | Case Study 1: Data Dumps |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |

| | | | |
|---|---|---|---|
| | (Quantitative and qualitative data)<br><br>(Business Implications: Differentiating data into quantitative and qualitative basket) | CLO | CLO1 & 2 |
| | | SLO | Students would be able to understand different types of data and its usage for a given business situation |
| 2. | Understanding … MS-Excel as spreadsheet<br><br>(Business Implications: Grouping of data into manageable forms<br><br>Techniques learned: Count(), frequency(), range creation – min() max() etc.) | Readings | Case Study 1: Data Dumps |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |
| | | CLO | CLO1 & 2 |
| | | SLO | Students would get familiar with working of MS-Excel and how it is associated with data handling<br>Students would able to collate data into manageable form though techniques like frequency distribution, class intervals etc |
| 3. | Module II: Data description: Interpreting central tendency for business situations<br><br>(Business Implications: finding out central point and most preferred;<br><br>Techniques learned: average, median, mode) | Readings | Case 2: President Inns Guest database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would be able to process data into meaningful form using methods of summation, averaging, median, mode and interpret them for business situation. |
| 4. | Data description: interpreting dispersion in data for business situations<br><br>(Business Implications: able to understand spread of data;<br><br>Techniques learned: standard deviation, variance and coefficient of variation) | Readings | Case 2: President Inns Guest database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would be able to understand concept of dispersion and use it to interpret data |
| 5. | Data description: Discovering relationship between data sets<br><br>(Business Implications: Use of correlation, regression, BEP etc;<br><br>Techniques learned: Analysis tool pack, sum, product, division etc) | Readings | Case 2: President Inns Guest database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would be able to discover relationships hidden in the data and use it in business |
| 6. | Review and Exercises – I | Readings | Exercises |
| | | Pedagogy | Exercises |

| | | | |
|---|---|---|---|
| | (based on session 1-6) | CLO | CLO1 & 2 |
| | | SLO | At the end of the session, the student will be able to apply the concepts and tools learnt in session 1-5. |
| 7. | Module III: Querying the data:<br><br>(Business implications: extract top/bottom performers;<br><br>Techniques learned: sorting and filtering to arrange data) | Readings | Case 3: Regional Sales Database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would learn the art of querying the data through sorting and filtering enabling them to use it for business situation like extracting top performers. |
| 8. | Querying the data:<br><br>(Business Implications: extracting associated information;<br><br>Techniques learned: Vlookup) | Readings | Case 3: Regional Sales Database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would be able to extract relevant business information based on a criteria and use the same for a given situation. |
| 9. | Module IV: Summarizing and presenting data:<br><br>(Business Implications: Grouping data based on condition;<br><br>Techniques learned: SUMIFS(), COUNTIFS(), AVERGAEIFS()) | Readings | Case 4: Store Database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would be able to query data based on conditions given for a situation |
| 10. | Data Presentation:<br><br>(Business Implications: presenting data in a meaningful manner;<br><br>Techniques learned: charting) | Readings | Case 4: Store Database |
| | | Pedagogy | Discussion (15 min), demonstration (20 min) and experiential activity (40 min) |
| | | CLO | CLO1, 2 & 3 |
| | | SLO | Students would be able to present data through charts |
| 11. | Review and Exercises – II<br><br>(based on session 7-10) | Readings | Exercises |
| | | Pedagogy | Exercises |
| | | CLO | CLO1, 2, 3 & 4 |
| | | SLO | At the end of the session, the student will be able to apply the concepts and tools learnt in session 7-10. |
| 12. | Summing up the course | Readings | -- |
| | | Pedagogy | Discussion |
| | | CLO | CLO1, 2, 3 & 4 |
| | | SLO | The session weaves and winds up the whole course. |

**TIME BUDGETING IN COURSE PLANNING:**

| Activity | Description | Time Budgeted |
|---|---|---|
| Classes | 2-3 hours per week for 12 weeks | 30 hours |
| Reading | Prescribed readings and making notes | 30 hours |

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|---|---|---|
| Preparation of set questions, exercises and problems | Including shared and group exercises | 15 hours |
| Preparation of assignment | Reading and writing | 15 hours |
| Study and revision for test and end of Trimester examination | Self-preparations | 15 hours |
| **TOTAL** | | 105 hours |

**ASSESSMENT COMPONENTS**

| S. No. | Assessment Task | Assessment Type | Weightage | Marks | CLO Measured |
|---|---|---|---|---|---|
| 1. | Quiz | LMS | 20% | 10 | CLO 1 & 2 |
| 2. | Assignment | Lab activity/LMS – Group/individual | 30% | 15 | CLO 2 & 3 |
| 3. | Class participation | Class activity | 10% | 5 | CLO 1 & 2 |
| 4. | End term hall examination | Hall exam | 40% | 20 | CLO 1, 2 & 3 |
| | | Total | 100% | 50 | |

**ASSESSMENT TASK DESCRIPTION**

***Quiz***

**Weightage:** 20% (refer Rubric of evaluation at the end).
**Description:** Students will be examined on basic understanding of the concepts and excel techniques.
**Expectation from students:**
**Suggested time to devote to this task:** 2-3 hours a week
**Submission details:** LMS
**Feedback and return of work:** Quiz cannot be returned, but feedback will be given immediately after assessment.
**Pre/In/beyond class:** In-class

***Assignment***

**Weightage:** 30% (refer Rubric of evaluation at the end).
**Description:** Student will be examined on comprehension of given dataset.
**Expectation from students:**
**Suggested time to devote to this task:** 2-3 hours a week
**Submission details:** Soft copy / LMS
**Feedback and return of work:** Assignment cannot be returned, but feedback will be given within a weeks' time.
**Pre/In/beyond class:** In-class

***Class participation***

**Weightage:** 10% (refer Rubric of evaluation at the end).
**Description:** Student will be examined on actives participation and troubleshooting activities
**Expectation from students:**
**Suggested time to devote to this task:** In-class time
**Submission details:** In-class
**Feedback and return of work:** Feedback will be given immediately in the class.
**Pre/In/beyond class:** In-class

***End term hall examination***

**Weightage:** 40% (refer Rubric of evaluation at the end).
**Description:** Students will be examined through a case analysis and comprehension.

**Expectation from students:**

**Suggested time to devote to this task:** 4-5 hours a week

**Submission details:** Hall examination

**Feedback and return of work:** No feedback and answer scripts will not be returned.

**Pre/In/beyond class:** beyond class

**INSTRUCTIONS:**

Students will be expected to maintain a daily log of their learning and make an action plan. The continuous evaluation tools would be implemented as per schedule and collected for evaluation.

Students are encouraged to visit videos available on Internet – YouTube, TED talks, and readings available at websites like course era, etc.

**RUBRIC FOR CLOS**

| CLOs | Level 1: Beginning | Level 2: Average | Level 3: Accomplished |
|---|---|---|---|
| **CLO1** Explain different types of data and its relevance in business. | Is not able to differentiate data or apply conceptual understanding | Is able to identify and apply conceptual understanding occasionally | Is able to identify and apply concept most of the time |
| **CLO2** Demonstrate the ability to use MS-Excel for a meaningful compilation of data. | Is not able to identify and adapt to techniques for solving situations | Demonstrate somewhat application of techniques to situations, some of the time | Demonstrate application of techniques to situations most of the time |
| **CLO3** Derive business understanding out of the data. (K & S) | Is neither able to identify problems nor possible techniques for solving a situation | Is somewhat able to identify the problem and envisage the appropriate technique | Is able to identify and synthesize the problem most of the time and envisage and apply appropriate technique |

**RUBRICS FOR QUIZ**

| POOR | FAIR | GOOD | EXCELLENT |
|---|---|---|---|
| POINTS 0-3.4 | POINTS 3.5-5.9 | POINTS 6-7.9 | POINTS 8 – 10 |
| ONLY UP TO 35% ANSWERS ARE CORRECT | BETWEEN 35 – 50% ANSWERS ARE CORRECT | BETWEEN 60 – 80% ANSWERS ARE CORRECT | 80% OR MORE ANSWERS ARE CORRECT |
| UNSATISFACTORY | MINIMAL | PROFICIENT | EXEMPLARY |
| Most of the concepts are not clear, remembered and answered by the student | Some of the concepts are clear, remembered and answered by the student | Majority of concepts are clear, remembered and answered by the student. | Most of concepts are clear, remembered and answered by the student. |

**RUBRICS FOR ASSIGNMENT**

| DEVELOPING | APPROACHING PROFICIENCY | PROFICIENT | ADVANCED |
|---|---|---|---|
| POINTS 0-3.4 | POINTS 3.5-5.9 | POINTS 6-7.9 | POINTS 8 – 10 |
| ONLY UP TO 35% ANSWERS ARE CORRECT | BETWEEN 35 – 50% ANSWERS ARE CORRECT | BETWEEN 60 – 80% ANSWERS ARE CORRECT | 80% OR MORE ANSWERS ARE CORRECT |
| Is not able to even synthesise problem | Is able to synthesize problem | Is able to synthesize problem and envisage applicable excel technique | Is able to synthesize problem and envisage applicable excel technique and provide interpretation of data |

**RUBRICS FOR END TERM**

| POOR | FAIR | GOOD | EXCELLENT |
|---|---|---|---|
| POINTS 0-3.4 | POINTS 3.5-5.9 | POINTS 6-7.9 | POINTS 8 – 10 |

| ONLY UP TO 35% ANSWERS ARE CORRECT | BETWEEN 35 – 50% ANSWERS ARE CORRECT | BETWEEN 60 – 80% ANSWERS ARE CORRECT. | 80% OR MORE ANSWERS ARE CORRECT. |
|---|---|---|---|
| **UNSATISFACTORY** | **MINIMAL** | **PROFICIENT** | **EXEMPLARY** |
| Most of the concepts are not clear and student is unable to understand the same. | Many of the concepts are clear and understood by student. | Majority of concepts are clear and understood by student. | Most of concepts are clear and understood by the student. |

**INSTITUTE'S POLICY STATEMENTS**

It is the responsibility of every student to be aware of the requirements for this course, and understand the specific details included in this document. It is emphasized that this course requires a significant commitment outside of formal class contact. The learning tasks in this course include classes, required reading and practices, the preparation of answers to set questions, exercises and problems, and self-study. In addition, students may be required to complete an assignment, test or examination.

**LATE SUBMISSION**

Not applicable as student would have to complete and submit assignment in the class.

**PLAGIARISM:**

Plagiarism is looked at as the presentation of the expressed thought or work of another person as though it is one's own without properly acknowledging that person.

Cases of plagiarism will be dealt with according to Plagiarism Policy of the institute. It is advisable that students should read applicable section of Student Handbook for detailed guidelines. It is also advisable that students must not allow other students to copy their work and must take care to safeguard against this happening. In cases of copying, normally all students involved will be penalized equally; an exception will be if the student can demonstrate the work is their own and they took reasonable care to safeguard against copying.