	Business Analytics				
Time Allotted for End Semester Examination	Marks Allotted for Internal Assessment	Marks Allotted for End Semester Examination (ESE)	Maximum Marks (MM)	Total Credits	Maximum Hours
3 Hrs.	**30 (20+10)**	**70**	**100**	**03**	**40**

OBJECTIVE: Analytics is the scientific process of deriving business insights from raw data to support decision making. This course aims to provide a basic introduction to the use of analytical techniques to solve business problems, and how a business organization can create a competitive advantage by leveraging on data derived from its multiple business processes.

- Business analytics: introduction, types of analytics, characteristics of analytics, business analytics, and business intelligence; business analytics process and its relationship with decision making process; Advantage of business analytics: informed decisions, creating competitive advantage, key attributes of analytical competitors, OLAP and OLTP.
  Case Study 1: Sabre Helps Its Clients through Dashboards and Analytics.
  Case Study (Assignment 1): Nationwide Insurance Used BI to Enhance Customer Service. **(8 hours)**
- Analytical methods and models: Descriptive analytics-overview of its tools and techniques, role in business analytics process and its importance in business decision making.
  Assignment: Questions related to Descriptive Analytics.
  SPSS Assignment: Converting ungrouped data into grouped data and find out its measures of central tendency. **(8 hours)**
- Business analytics in action: applicability and importance of business analytics in different areas financial analytics, human resource analytics, marketing analytics, CRM, health care analytics, supply chain analytics, sport analytics and analytics for Government and non profit organization.
  Case Study 2: Analyzing Athletic Injuries.
  Case Study (Assignment 2): Eliminating Inefficiencies at Setro Children's Hospital. **(8 hours)**
- Developing analytics: kinds of statistics, statistical tests, big data and its analyst, important analytics softwares, Job opportunities in business analytics, skills required for analytics, data analytics for modern engineers and scientists, IoT.
  Class Assignment: ANOVA.
  SPSS Assignment: t-test and Chi-Square. **(8 hours)**
- Predictive analytics- data modeling, types of data model, data modeling technique, basics of data mining and machine learning environment; Prescriptive analytics: basics of its tools and modeling, role in business analytics process, model based decision making.
  Case Study 3: Text Mining for Patent Analysis
  Case Study (Assignment 3): Harnessing Analytics to Combat Crime: Predictive Analytics Helps Delhi Police Department Pinpoint Crime and Focus Police Resources. **(8 hours)**

SUGGESTED READINGS:

1. Davenport,H., Harris J.G. (2007), *Competing on Analytics: The New Science of Winning*, Harvard Business Review Press, USA.
2. Davenport H., Harris J.G. and Morison R.(2010). *Analytics at Work: Smarter Decisions, Better Results*,Harvard Business Review Press, USA.
3. SchniederjansM.J., SchniederjansD.G. and Starkey C.M. (2014). *Business Analytics Principles, Concepts, and Applications with SAS: What, Why, and How*, FT Press Analytics, New Jersey.
4. Provost F., Fawcett T. (2013). *Data Science for Business: What you need to know about data mining and data-analytic thinking,* O'Reilly Media, Canada.

5. Siegel E. (2013). *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die*, Wiley, New Jersey.
6. Fitz-enz J. and Mattox J. (2014). *Predictive Analytics for Human Resources*, Wiley and SAS Business Series, New Jersey.
7. Maisel L. and Gokins G.(2014). *Predictive Business Analytics: Forward Looking Capabilities to Improve Business Performance,* Wiley, New Jersey.
8. Granville V. (2014). *Developing Analytic Talent: Becoming a Data Scientist*, Wiley Publishers, Indiana
9. Watson M. , Nelson D. and Cacioppi P.(2013) *Managerial Analytics: An Applied Guide to Principles, Methods, Tools, and Best Practices,* FT Press Analytics, New Jersey.
10. Prasad R.N. and Acharya S. (2018). *Fundamentals of Business Analytics*, Wiley Publishers, New Delhi
11. Turban, E., Sharda, R., &Delen, D. (2014). *Business intelligence and analytics: systems for decision support*. Pearson Higher Ed, England.
12. **Case Study1:** https://www.chegg.com/homework-help/questions-and-answers/application-case-11-sabre-helps-clients-dashboards-analytics-sabre-one-world-leaders-trave-q26618322
13. Case Study(Assignment1): https://www.coursehero.com/file/22692809/Nationwide-Insurance-Used-BI-to-Enhance-Customer-Service/
14. **Case Study2:** https://www.chegg.com/homework-help/questions-and-answers/analyzing-athletic-injuries-athletic-activity-prone-injuries-inju-ries-handled-properly-te-q25624717
15. **Case Study3:** https://www.chegg.com/homework-help/text-mining-patent-analysisa-patent-set-exclusive-rights-gra-chapter-7.1ac-problem-2qd-solution-9780133868906-exc

NOTE: The list of cases, specific references and books including recent articles will be announced in the class by concerned teachers from time to time.