Information Technology and Systems

ITSS 3100 Professional Development (1 semester credit hour) This course is required for all first time in college freshmen who were required to take BA 1100, in the Naveen Jindal School of Management. This course is designed to enhance the student's experience in the Naveen Jindal School of Management. Students will enhance networking skills, verbal and written communication skills, business etiquette training, and learn how to increase their human capital. Students will also work on projects geared towards career management and overall professional development as a business major. The goal of this class is to make the student a more marketable and valuable professional in the global economy. Credit cannot be received for more than one of the following:ACCT 3100, BA 3100, BCOM 3100, FIN 3100, HMGT 3100, IMS 3100, ITSS 3100, MKT 3100, OBHR 3100, OPRE 3100, ACCT 3200, BA 3200, BCOM 3200, FIN 3200, HMGT 3200, IMS 3200, ITSS 3200, MKT 3200, OBHR 3200 or OPRE 3200. Prerequisite: BA 1100. (1-0) S

ITSS 3200 Introduction to Business and Professional Development (2 semester credit hours) This course is required for all students in their first semester majoring in the Naveen Jindal School of Management who were not required to take BA1100. This course will enhance the student's experience in the Naveen Jindal School of Management, introduce them to the professional and communication expectations of their field, and make them a more marketable and valuable professional in the global economy. Credit cannot be received for more than one of the following: ACCT 3100, BA 3100, BCOM 3100, FIN 3100, HMGT 3100, IMS 3100, ITSS 3100, MKT 3100, OBHR 3100, OPRE 3100, ACCT 3200, BA 3200, BCOM 3200, FIN 3200, HMGT 3200, IMS 3200, ITSS 3200, MKT 3200, OBHR 3200 or OPRE 3200. (2-0) S

ITSS 3300 Information Technology for Business (3 semester credit hours) Examines key business processes in organizations and how information systems support the execution and management of these processes. The course focuses on using information technology and information systems to support decision-making, thus blending technical and managerial topics. Students will be exposed to principles of information technology and information systems and work directly with a variety of information systems tools and techniques such as Excel, Tableau, and relational database management systems. (3-0) S

ITSS 3311 Introduction to Programming (3 semester credit hours) This course introduces students to the fundamental concepts of programming. Students will also be introduced to the object-oriented paradigm. Topics include data types, control structures, objects, classes, iterations, functions, and arrays as they relate to developing business applications. In this course students will learn the mechanics of running, testing, and debugging programs. (3-0) Y

ITSS 3312 Object-Oriented Programming (3 semester credit hours) Business application development using an object-oriented programming language. Topics include the fundamentals of programming for web-based systems, and object-oriented programming concepts. Prerequisites: ITSS 3311 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) Y

ITSS 3390 Web Design and Development for Business Applications (3 semester credit hours) This course introduces students to fundamental concepts and techniques of designing and developing a responsive and user-friendly website. The topics include HTML, CSS, JavaScript, domain registration, web hosting management, FTP, WordPress, content management system (CMS) platform, blog, search engine optimization (SEO), and web analytics. Students acquire knowledge through hands-on experience with web design tools, techniques, and methods in a realistic and collaborative class setting while working towards designing the core components of a dynamic and functional website. (3-0) S

ITSS 4090 Information Technology and Systems Internship (0 semester credit hours) This course is designed to further develop a student's knowledge of information systems through appropriate developmental work experiences in a true organizational setting. Students are required to identify and submit specific business learning objectives (goals) at the beginning of the semester. Student performance is evaluated by the work supervisor. Credit/No Credit only. May be repeated if internships differ. Department consent required. (0-0) S

ITSS 4300 Database Fundamentals (3 semester credit hours) Introduces the basic concepts for the design and development of relational databases and database management. Topics include entity-relationship data model, logical database design, data administration, Structured Query Language, and database management issues, such as concurrency control, data security, and integrity. A database management system software package is used to implement working database systems. Prerequisites: ITSS 3300 and ITSS 3312 and (MATH 1325 or MATH 2413 or MATH 2417) and (MATH 2333 or MATH 2415 or MATH 2418 or CS 2305 or OPRE 3333). (3-0) Y

ITSS 4301 Database Systems (3 semester credit hours) Introduces the basic concepts of relational databases. The emphasis is on relational database structure and the use of relational databases for query retrievals and report generation. Structured Query Language (SQL) will be covered extensively. Applications of databases for accounting, finance, marketing, and other areas of business will be discussed. ACCT 4301 or ITSS 4301 may not be used to satisfy BS INTS degree requirements. Prerequisites: (ACCT 2302 with a minimum grade of C) and ITSS 3300 and (MATH 1325 or MATH 2413 or MATH 2417). (Same as ACCT 4301) (3-0) Y

ITSS 4312 Mobile Web Application Development (3 semester credit hours) Provides an introduction to mobile web application development. A mobile web application is developed using a combination of CSS, HTML5, JavaScript, and PHP. Emphasis is given to hands on application of course material through development of a web application prototype under conditions simulating a business environment. Prerequisite: ITSS 3312. (3-0) Y

ITSS 4320 Introduction to Healthcare Information Systems (3 semester credit hours) Examines key processes in healthcare organizations and how information systems support the delivery of healthcare services. The course also deals with issues surrounding the selection, implementation, and use of electronic medical records (EMR) and provides opportunities to work hands-on with EMR software. Prerequisites: HMGT 3301 and ITSS 3300. (Same as HMGT 4321) (3-0) Y

ITSS 4330 Systems Analysis and Design (3 semester credit hours) Examines various systems development methodologies with an emphasis on object oriented systems development methods.

Students will be exposed to various concepts in systems analysis and design, project management, and information gathering techniques. Hands-on projects focusing on UML to design and develop projects will be an integral part of the course. Prerequisites: ITSS 3312 and (MATH 1326 or MATH 2414 or MATH 2419) and (CS 2305 or MATH 2333 or MATH 2415 or MATH 2418 or OPRE 3333). Prerequisite or Corequisite: ITSS 4300. (3-0) Y

ITSS 4340 Enterprise Resource Planning (3 semester credit hours) This course is designed to provide students with an understanding of and practical experience in the use of enterprise resource planning systems in modern business. Currently, the course uses SAP. The topics covered in the course includes integrated business processes related to procurement, sales, finance, production planning, and production execution. Students get hands on transaction experience with SAP ERP modules on both ECC6.0 and S4/ Hana platforms. Prerequisites: ITSS 3300 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) Y

ITSS 4342 Analysis and Design of Accounting Systems (3 semester credit hours) Students are introduced to accounting system analysis and design tools and methods. The course emphasizes business processes, accounting transaction flows, internal control and accounting information systems as part of enterprise systems. Prerequisites: ACCT 3331 with a minimum grade of C. Prerequisite or Corequisite: ACCT 3332. (Same as ACCT 4342) (3-0) S

ITSS 4343 Integrated SCM Information Systems (3 semester credit hours) An introduction to the concept of an integrated supply chain management system such as SAP's Enterprise Resource Planning System. Students will: 1) learn the elements of an ERP application, 2) understand the concepts of end-to-end supply chain management, 3) define the basic master data needed to create a supply chain plan, 4) forecast demand using several statistical methods, 5) plan inventories using MRP and re-order point techniques, 6) execute the supply chain plan through the production process, and 7) view the completed inventories after production. Prerequisite: ITSS 3300. (Same as OPRE 4320) (3-0) Y

ITSS 4351 Foundations of Business Intelligence (3 semester credit hours) Students are introduced to foundational business intelligence (BI) concepts and explore the theory and practice of data warehouses for enterprises. BI concepts including data mart schemas, ETL, OLAP, cubes and reporting will be covered. The course will also examine the components of an enterprise data warehouse, extract, cleanse, consolidate, and transform heterogeneous data into a single enterprise data warehouse, and run queries using a data warehouse. Prerequisites: ITSS 3300 and ITSS 4300 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) Y

ITSS 4352 Introduction to Web Analytics (3 semester credit hours) Introduces technologies and tools used to realize the full potential of web sites. The course focuses on collection and use of web data such as web traffic and visitor information to design web sites that will enable firms to acquire, convert, and retain customers. Online advertising such as paid search and web analytics tools will also be included. Prerequisites: ITSS 3300 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) Y

ITSS 4353 Business Analytics (3 semester credit hours) This course will introduce various data mining analytical techniques to extract business intelligence from firms' business data for various applications, including supervised and unsupervised learning analytic techniques, association, customer segmentation, classification, customer relationship management (CRM), personalization, online recommendation systems, and web mining. Students will also be exposed to various business intelligence software such as Python, R, XLMiner, SAS EnterpriseMiner, or SQL Server (depending on availability). Prerequisites: ITSS 3312 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) T

ITSS 4354 Advanced Big Data Analytics (3 semester credit hours) Advanced topics in supervised and unsupervised machine learning techniques using big data solutions such as Hive and Spark. Students explore the issues and challenges related to managing data within an organization. This course is designed to equip students with skills to address the business intelligence, data analysis, and data management needs of an organization. Students are introduced to machine learning techniques and big data technologies. Prerequisites: ITSS 3312 and ITSS 4300 and ITSS 4351. (3-0) Y

ITSS 4355 Data Visualization (3 semester credit hours) This course focuses on how to leverage new decision support technologies to improve organizational decision making. Students will explore various data visualization tools and review the foundational principles that guide their use. Prerequisites: ITSS 3312 and ITSS 4300 and ITSS 4351. (3-0) Y

ITSS 4360 Network and Information Security (3 semester credit hours) With the advances in information technology, security of information assets has become a keenly debated issue for organizations. While much focus has been paid to technical aspects of the problem, managing information security requires more than technology. Effective information security management demands a clear understanding of technical as well as socio-organizational aspects of the problem. The purpose of this course is to prepare business decision makers who recognize the threats and vulnerabilities present in current information systems and who know how to design and develop secure systems. Prerequisites: ITSS 3300 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) Y

ITSS 4370 Information Technology Infrastructure (3 semester credit hours) Management of the information technology within an organization is a critical activity. Students will be introduced to key issues relating to managing IT resources and IT projects. Topics include IT infrastructure, IT investment, management of IT, and planning and management of projects related to IT infrastructure. Prerequisites: ITSS 3300 and (MATH 1326 or MATH 2414 or MATH 2419) and (MATH 2333 or OPRE 3333 or MATH 2418 or MATH 2415 or CS 2305). (3-0) Y

ITSS 4380 Advanced Database Management (3 semester credit hours) To provide the student with an in-depth knowledge of advanced topics relating to database administration, database design, and database manipulation. Students will learn advanced SQL techniques and database administration techniques. At the end of the course, student will be able to effectively write advanced SQL queries and understand the tasks required to support a relational database. Prerequisite: ITSS 4300. (3-0) Y

ITSS 4381 Object Oriented Programming with Python (3 semester credit hours) Students will learn

basic concepts of Object-Oriented Programming (OOP) and implement the ideas using Python, a scripting language. The classes will consist of lectures interwoven with hands-on coding that reinforces the language constructs as well as using functions from basic libraries. The students are required to bring in laptops to the class so that they can practice coding as a follow through during the lectures. The lectures will provide opportunities for the students to collaborate and learn (paired programming). Prerequisite: ITSS 3311. (3-0) S

ITSS 4390 Information Systems Capstone (3 semester credit hours) Project-based capstone course. Student groups apply management information technology and information systems principles and techniques which may include the analysis, design, and/or testing of information systems. They will also analyze organizational impacts associated with acquiring, designing, developing, and delivering information systems solutions. As a designated communication-enhanced course, ITSS 4390 also focuses on the refinement of students' business communications skills and their use of writing as a critical-thinking and learning tool. Students may also choose to take a 3 credit hour internship to satisfy this requirement. This course may also be used to satisfy the internship requirement. Prerequisite: ITSS 4330 and (MATH 2333 or MATH 2415 or MATH 2418 or CS 2305 or OPRE 3333) and (MATH 1326 or MATH 2414 or MATH 2419). (3-0) Y

ITSS 4V81 Individual Study in ITSS (1-3 semester credit hours) May be repeated for credit as topics vary (9 semester credit hours maximum). Instructor consent required. ([1-3]-0) R

ITSS 4V90 ITSS Internship (1-3 semester credit hours) This course is designed to further develop a student's knowledge of information systems through appropriate developmental work experiences in a true organizational setting. Students are required to identify and submit specific business learning objectives (goals) at the beginning of the semester. At the end of the semester students must prepare an oral presentation, reflecting on the knowledge gained in the work experience. Student performance is evaluated by the work supervisor. Credit/No Credit only. May be repeated for credit (6 semester credit hours maximum). Instructor consent required. ([1-3]-0) S

ITSS 4V95 Seminar Series in Information Systems (1-3 semester credit hours) Discussion of selected topics and theories in information systems. May be repeated for credit as topics vary (9 semester credit hours maximum). ([1-3]-0) R