

Insurance - CPS (INS)

INS 6010. Insurance Finance. (3 Hours)

Designed to provide students with a rigorous combination of theory and practice in the fundamental principles of finance for insurance. Offers students an opportunity to become familiar with many of the core principles and concepts commonly applied in the insurance field on a daily basis. Identifies and reinforces work-related practices, such as analyzing financial statements, the application of time value of money concepts, asset valuation on a discounted cash flow (DCF) basis, cost benefit analysis (CBA), and the quantification of the multifaceted relationship between risk and return in financial markets.

INS 6020. Claims Management. (3 Hours)

Introduces how claims are adjudicated in the insurance industry, focusing on specific steps and processes of principled claims management. Addresses the shifting technological landscape, exploring analytics as a tool for claim resolution and fraud detection, as well as providing information about the operational and regulatory environment in which claims are processed and managed. Reviews and evaluates case studies of all types of insurance and reinsurance. Illustrates how insurance regulations and compliance requirements have a significant, influential impact on the products sold and insurance carrier behavior in risk.

INS 6030. Insurance Underwriting. (3 Hours)

Introduces fundamental underwriting objectives and techniques across multiple lines of the insurance business—including life, health, accident, annuity, property, and casualty. Offers students an opportunity to learn how to apply risk analysis methodologies to pricing, negotiating, and client service. Integrates the most current tools and trends in analytics that have and will become essential to the underwriting process. Analyzes the impact of insurtech on the insurance industry, identifying applied practices that may transform underwriting. Examines decision science principles, to enable students to better understand how to select data for underwriting evaluation.

INS 6040. Introduction to Insurance Data Analytics. (3 Hours)

Offers an overview of analytics concepts and practices. Uses case studies of successful analytics initiatives within the insurance industry to examine how the collection and analysis of data impacts decision making. Introduces statistics for business analytics from an analysis-of-data viewpoint. Topics include frequency distributions; measures of location; mean, median, mode; measures of dispersion; variance; graphic presentation; elementary probability; populations and samples; sampling distributions; categorical data; continuous probability distributions; confidence intervals; and hypothesis testing. Offers students an opportunity to engage with the current theories, practices, and debates in the field of analytics to critically examine its practice for insurance industry professionals.

INS 6050. Intermediate Insurance Analytics. (3 Hours)

Builds on the foundation laid by INS 6040. Introduces fundamental data due diligence, reliability, data correction, and recoding processes and practices as they apply to the insurance industry. Expands upon the earlier introduced approaches to discerning and validating patterns in data through sound applications of the scientific method. Emphasizes regression, chi-square and ANOVA testing, regularization, and generalized linear models. Offers students an opportunity to obtain the fundamental data management, review, reengineering, and exploration skills required to successfully develop the data analytical competencies in demand across the insurance industry.

Prerequisite(s): INS 6040 with a minimum grade of C-

INS 6080. Integrated Experiential Learning. (3 Hours)

Offers students an application-oriented practicum in the development and delivery of insurance technology/analytics and management projects for tactical and strategic decision making in insurance organizations undergoing digital transformation. Offers students an opportunity to apply the principles, approaches, and tools to real-world problems in domain knowledge areas of insurance organizations and to develop and present analytical and management insights and recommendations for successful implementation of the sponsor project.

INS 6110. Insurance Regulation and Law. (3 Hours)

Offers students an opportunity to learn about insurance regulation at the state and federal level. Topics include the history and evolution of insurance regulation, federal and state regulatory practices, underwriting and claims regulation, and international insurance regulation.

INS 6120. Macro Challenges in Insurance. (3 Hours)

Studies the macro challenges facing the planet—including an aging population, climate change, and pandemic risks—and the way in which the insurance industry adapts and changes to address those challenges. From its deep-rooted understanding of risk assessment to its extensive access to and grasp of data, the insurance industry must vigilantly assess and respond to macro risks that threaten populations.

Prerequisite(s): INS 6010 with a minimum grade of C- ; INS 6030 with a minimum grade of C- ; INS 6040 with a minimum grade of C-

INS 6130. Advanced Reinsurance. (3 Hours)

Analyzes the fundamental mechanics of reinsurance, explaining how to use reinsurance to better create, pursue, and achieve core and strategic business goals. Students research the capital markets and how those financing sources evaluate the industry for investment purposes. Explores core aspects of reinsurance contract administration, as well as the financial management benefits and risks associated with reinsurance vehicles, markets, and partners, applying acquired knowledge to examples of uses and pitfalls to reinsurance purchasing.

Prerequisite(s): INS 6010 with a minimum grade of C- ; INS 6030 with a minimum grade of C-

INS 6140. Distribution and Sales. (3 Hours)

Introduces students to the traditional distribution and sales models used by the insurance industry. Examines contemporary disruptions to the traditional distribution and sales models brought on by the integration of data, machine learning, AI, and the trend toward online customer engagement. Offers students an opportunity to examine the impacts of these changes for individuals working in the distribution and sales segments of the insurance industry.

Prerequisite(s): INS 6040 with a minimum grade of C-

INS 6980. Capstone. (3 Hours)

Offers an advanced application-oriented practicum in the development and delivery of insurtech/analytics and management projects for tactical and strategic decision making in insurance organizations undergoing digital transformation. Offers students an opportunity to apply the principles, approaches, and tools to real-world problems in domain knowledge areas of insurance organizations. Expects students to present analytical and management insights and recommendations for a successful implementation of their capstone project.

INS 6983. Special Topics. (3 Hours)

Covers special topics relevant to the Insurance industry. May be repeated up to four times.