ENRG 4100 Energy Markets, Economics, and Policy (3)
The course covers a range of energy-related topics including major challenges and policy issues facing the industry, history of the industry, company profiles and strategies, energy economics, energy regulatory environment, energy markets, energy technology, and the environment and sustainable development. An executive speaker series is an integral component of the course. Students must complete a group paper and presentation as well as an individual paper on an energy subject jointly agreed to by the professor and the student. Prerequisite(s): ECON 1020.

Prerequisite(s): ECON 1020.

ENRG 4110 Energy Financial Modeling (3)
This course makes the connection between learning textbook finance principles and solving real-world business problems. The course translates textbook finance into a practical set of tools for solving actual business problems. The course focuses on applications in the energy industry, with an emphasis on financial modeling of exploration and production (E&P) companies. The course provides students a patterned map for solving common financial models with spreadsheets. Class members will examine each model, and the professor will guide each student, step-by-step, through the model, showing how it can be solved in Excel. Areas covered include financial statement analysis, cash flow analysis and valuation for E&P companies. The applications are particularly appropriate in equity research and investment banking for energy companies. The course will cover Visual Basic applications. Students must have a good grasp of Excel before taking this class. Prerequisite(s): MGSC 3010, FINE 3010*. (* May be taken concurrently.)

Prerequisite(s): MGSC 3010 and FINE 3010*.
* May be taken concurrently.

ENRG 4200 Energy Fundamentals and Trading (3)
The course will cover the fundamentals of renewable and conventional energy production, transportation, processing, power, and the related marketing and trading activities. Structure of physical and financial markets, risk management practices, and portfolio modeling will be covered. The course will cover how the energy markets have evolved as more U.S. federal and local government incentives and mandates have increased the demand of renewable energy sources such as wind, solar, and biomass. The course will include interactive trading in the Freeman School's state-of-the-art trading room, which will focus on the futures market of the New York Mercantile Exchange (NYMEX) to test student-developed trading strategies, mark-to-market models, and risk management tactics used in today's fast-paced energy trading environment. Prerequisite(s): MGSC 3010 and FINE 3010.

Prerequisite(s): MGSC 3010 and FINE 3010.

ENRG 4410 Special Topics (1-3)
This course provides an overview of the economic principles used in analyzing energy markets and environmental issues important to this sector. Students in this class will learn to apply fundamental tools of micro and macroeconomics to study business and public policy issues involved in oil, natural gas and electric industries, including renewable energy sources. The course will cover the fundamentals of externalities in the energy industries and how to evaluate the impact of various environmental policies. They will evaluate incentives-compatible mechanisms and efficient environmental regulation design. Students will study a numbers of industry specific cases and critically analyze typical problems in each industry. Students will apply economic reasoning to unravel popular fallacies and doomsday scenarios such as peak oil, fallacy of common-use resources, technical vs. economic potential of energy technologies and others. Prerequisite(s): ECON 1010, 1020 and ENRG 4100*. (* May be taken concurrently.)

Prerequisite(s): ECON 1010, 1020 and ENRG 4100*.
* May be taken concurrently.

ENRG 4610 Energy Trends: Electric Power Markets (3)
This course covers the fundamental concepts necessary to maintain and operate an efficient, wholesale electric power market. Through in-class simulations, students will apply concepts from operations management, economics, risk management and negotiations to manage physical and financial power portfolios. Lecture topics will include deregulation/industry segmentation, security constrained economic dispatch (including unit commitment and scheduling), locational marginal pricing, resource development (including traditional thermal and renewable resources), and contract negotiation. Instructor-led case studies will review historic successes and failures of deregulated energy firms. Successful completion of this course will provide students with a firm understanding of electric power market operations and portfolio management. Prerequisite(s): ECON 1010 and FINE 3010 and (ENRG 4100, 4110 or 4120).

Prerequisite(s): ECON 1010 and FINE 3010 and (ENRG 4100, 4110 or 4120).
ENRG 4710 Energy Portfolio Management (3)
This course teaches students how to select and analyze companies in the Energy sector and use this knowledge to study and build investment portfolios of energy assets (an Energy sector fund). After taking this course, students should be able to apply to Energy stocks the same key investment concepts and theories that asset management professionals use. Students will learn how professional equity analysts value energy companies; be able to accurately calculate and interpret key quantitative values and evaluate energy assets; apply stock selection criteria to identify investments suitable for an energy sector fund; study and build portfolios using different energy assets and investment styles; and evaluate portfolios against benchmarks and other metrics, including expected return, risk, and other financial measures. Prerequisites: FINE 4110, FINE 4120

Prerequisite(s): FINE 4110 and 4120.

ENRG 4730 Energy Investment Banking (3)
Energy Investment Banking is intended for students who wish to be introduced to, learn about, and implement the concepts and methodologies of energy investment banking as currently practiced in the investment banking industry. It builds on the core finance topics covered in Financial Management. The course will cover corporate financial strategy in the context of capital raising alternatives available to actual E&P and oilfield services companies that operate in the energy industry. It will also cover key concepts and methods of valuing energy companies, as well as analyzing, proposing and completing financing for energy companies. The financing types that students will examine and thoroughly discuss will include initial public offerings, follow-on equity offerings, merger and acquisition engagements, long-term debt issuance and strategic financial advisory services. Students will be required to develop, present and discuss financing alternatives for selected companies operating in the energy space. Prerequisite(s): FINE 3010 and MGSC 3010.

Prerequisite(s): FINE 3010 and MGSC 3010.

ENRG 4880 Writing Intensive: ENRG 4100 (1)
Prerequisite(s): ENRG 4100.

ENRG 4890 Service Learning: ENRG 4411 (0-1)
Course may be repeated up to unlimited credit hours.

Corequisite(s): ENRG 4411.
Maximum Hours: 99

ENRG 4910 Independent Study (1-3)
Course may be repeated up to unlimited credit hours.

Maximum Hours: 99

ENRG 5380 Business Study Abroad - ENRG (1-20)
ENRG 5390 Business Study Abroad - ENRG (1-20)
Course may be repeated up to unlimited credit hours.

Maximum Hours: 99

ENRG 6000 Intro to Energy Finance (3)
This course introduces all aspects of the energy industry and energy finance across the spectrum of conventional and renewable sources and their end uses. This course provides the baseline for the Master of Management in Energy degree program. It covers all aspects of the fundamentals and business of energy production through transportation and ultimate consumption, including oil and gas, renewables, and electric power generation and distribution. Integral to the course are Friday field trips to energy facilities and plants including upstream production facilities, conventional, nuclear and renewable power generation facilities, as well as related energy transportation infrastructure. An online Excel skills course is a prerequisite to this class.

ENRG 7100 Energy Mrkts, Inst & Pol (3)
This course covers a range of energy-related topics including major challenges and policy issues facing the industry, history and structure of the industry, company profiles and strategies, energy economics, energy markets, energy regulation, energy technology, and sustainable development. Faculty associated with the Tulane Energy Institute will lecture on the history, structure, and economics of the energy sector and its importance in the growth of modern economies. The course also includes a series of presentations by industry participants including energy economists, sell-side analysts, industry regulators, upstream oil and gas operators, midstream and downstream participants, as well as representatives of the myriad companies that provide services to the direct participants.
ENRG 7110 Energy Modeling (3)
This course familiarizes students with the quantitative aspect of energy fundamentals and the use of computer modeling as a tool for analyzing and solving energy-related problems. It introduces company analysis, capital structure, valuation, and portfolio management. The course also acquaints students with the job roles of an equity analyst and the discipline of analyzing and forecasting a company’s financials. The goal of the course is to provide students with the skill set necessary to analyze a company, understand its business and performance from both qualitative and quantitative perspectives, value the company, and evaluate that value relative to a peer group. The oil and gas industry, specifically the exploration and production (E&P) subsector, is used as a medium to give students tangible experience in company analysis and financial modeling. The course considers the subject matter from both top-down and bottom-up approaches. The course focuses on the E&P sector to introduce students to macro-analysis, industry analysis, peer analysis, and company analysis. Students learn how to analyze the qualitative aspects of analysis in terms of news flow of an industry and the individual companies within it, and the quantitative aspects of an industry, i.e., valuation techniques and relative value analysis. Excel and VBA are the primary computer tools employed in the course. Students are expected to develop proficiency in the use of Excel and VBA. Prerequisite(s): ENRG 6000*, FINE 6020 or 6050. (*May be taken concurrently.)

Prerequisite(s): ENRG 6000.

ENRG 7120 Energy Data Analysis (3)
This course emphasizes the analysis of different forms of quantitative data in energy markets, energy production, demand, and supply. The course introduces various interpretive analytic approaches, explores their uses, and guides students in applying them to energy data. The danger of using quantitative methods lies in the lack of fundamental understanding of the justification for the use of a procedure, how to use it correctly, and how to properly interpret results. The course addresses these pitfalls. The course covers the process of extracting meaning from data to support evaluation and decision making by using modern spreadsheet technology such as Microsoft Excel. The class explores data sets from Thomson Reuters and LIM and covers their key technical charting tools, employs statistical thinking to provide understanding of the variation in data, and draws insights into relationships that may exist among underlying factors. The course also covers the basics of cash flow analysis and introduces the elements of financial data interpretation. Prerequisite(s): ENRG 6000.

Prerequisite(s): ENRG 6000.

ENRG 7130 Energy & Environ Economics (3)
In this course, students apply analytical skills to solving problems in energy markets, energy production, demand, and supply. The course introduces capital intensive investment decisions in an era of uncertainty using the At Risk modeling tool. This allows analysts to compute the probability of success of a large investment decision and to identify the key sources of risks that need to be mitigated. Students will study how negative externalities in energy industries are mitigated through regulations. Positive externalities are also studied from the network effects which are the basis of many platform companies. This course is designed to apply micro- and macro-economic principles used in the Chartered Financial Analyst (CFA) Level 1 exam. Prerequisite: ENRG 6000

Prerequisite(s): ENRG 6000.

ENRG 7200 Energy Fund & Trading (3)
The course will cover the fundamentals of renewable and conventional energy production, transportation, processing, power, and the related marketing and trading activities. Structure of physical and financial markets, risk management practices, and portfolio modeling will be covered. The course will cover how the energy markets have evolved as more U.S. federal and local government incentives and mandates have increased the demand of renewable energy sources such as wind, solar, and biomass. The course will include interactive trading in the Freeman School's state-of-the-art trading room, which will focus on the futures market of the New York Mercantile Exchange (NYMEX) to test student-developed trading strategies, mark-to-market models, and risk management tactics used in today's fast-paced energy trading environment.

ENRG 7210 Energy Acctng & Valuation (3)
This course covers the fundamentals of the oil and natural gas exploration and production process (E&P or upstream) and the key financial decisions and metrics. The various operational steps and related financial decisions are followed through to their ultimate impact to a public E&P company’s external financial statements. Students are able to understand the immediate impact of various decisions on a company’s cash and non-cash financial performance which in turn lead to future financial and operational flexibility and success. Prerequisite(s): ENRG 6000 or ACCN 6050.

Prerequisite(s): ENRG 6000 or ACCN 6050.

ENRG 7220 Energy Accounting & Financing (3)
This course covers the fundamentals of the oil and natural gas exploration and production process (E&P or upstream) and the key financial decisions and metrics. The various operational steps and related financial decisions are followed through to their ultimate impact to a public E&P company’s external financial statements. Students are able to understand the immediate impact of various decisions on a company’s cash and non-cash financial performance which in turn lead to future financial and operational flexibility and success.
ENRG 7300  Adv Energy Trading & Finance (3)
The course covers advanced energy trading techniques, including technical analysis, electronic trading algorithms, and the trading of energy derivatives. In addition, the course considers the use of energy derivatives in the area of energy finance, valuations, planning, credit and risk management, and interactive trading in the school's state-of-the-art trading facility. Prerequisite(s): ENRG 7200.

Prerequisite(s): ENRG 7200.

ENRG 7310  Adv Energy Trading & Finance (3)
The course covers advanced energy trading techniques, including technical analysis, electronic trading algorithms, and the trading of energy derivatives. In addition, the course considers the use of energy derivatives in the area of energy finance, valuations, planning, credit and risk management, and interactive trading in the school's state-of-the-art trading facility.

ENRG 7500  Energy Risk Management (3)
The course balances both the qualitative and the quantitative aspects of the risk in energy markets. The course begins with a broad qualitative look at risk scenarios. For a qualitative perspective, the course draws heavily from Foundations of Energy Risk Management (FERM) and from Managing Energy Risk (MER). For the quantitative aspects such as forwards, MR Models and options, the course relies primarily on Energy and Power Risk Management (EPRM) and Energy Risk (ERVM). Topics covered include the economic impacts of pricing and investment decisions in these industries, privatization of publicly-owned energy assets, regulation of monopolies and antitrust, the transportation and storage of energy commodities, and the economics of renewable energy sources. Major policy trends related to energy production and use, such as deregulation, climate change, and environmental impacts, are critically analyzed. The course focuses on risk management applications from the perspective of an energy company. Prerequisite(s): ENRG 7110 or FINE 6020.

Prerequisite(s): ENRG 7110 or FINE 6020.

ENRG 7610  Trading: Wholesale Elec Mks (3)
This course covers the fundamental concepts necessary to maintain and operate an efficient wholesale electric power market. Through in-class simulations, students will apply concepts from operations management, economics, risk management, and negotiations to manage physical and financial power portfolios. Lecture topics will include deregulation/industry segmentation, security constrained economic dispatch (including unit commitment and scheduling), locational marginal pricing, resource development (including traditional thermal and renewable resources), and contract negotiation. Instructor-led case studies will review historic successes and failures of deregulated energy firms. Successful completion of this course will provide students with a firm understanding of electric power market operations and portfolio management.

ENRG 7730  Energy Investment Banking (3)
Energy Investment Banking is intended for students who wish to be introduced to, to learn about, and to implement the concepts and methodologies of energy investment banking as currently practiced in the investment banking industry. It builds on the core finance topics covered in financial management. Corporate financial strategy will be covered in the context of capital raising alternatives available to actual E&P and oilfield services companies operating in the energy industry. Concepts and methods of valuing energy companies and analyzing, proposing, and completing financing for energy companies will be covered. The financings that will be examined and thoroughly discussed include initial public offerings, follow-on equity offerings, merger and acquisition engagements, long-term debt issuance, and strategic financial advisory services. Students will be required to develop, present, and discuss financing alternatives for selected companies operating in the energy space. Prerequisite(s): ENRG 6000, FINE 6020 or 6050.

Prerequisite(s): ENRG 6000, FINE 6020 or 6050.

ENRG 7820  Energy Projects II (3)
Students work in teams on energy projects sponsored by faculty and energy industry executives. Each team is expected to analyze and research an energy industry issue and to prepare written project reports, presentations, or cases. The final project reports, presentations, and cases are evaluated by the project sponsors. This course is offered during the spring semester. Prerequisite(s): ENRG 6000.

Prerequisite(s): ENRG 6000.

ENRG 7830  Energy Regulation (3)
This course will begin with an overview of the global energy situation in terms of supply and demand as well as balanced projections for the coming decades both here and abroad. It then will proceed to examine the primary sources of energy along with the multi-faceted role of electricity as the central source of secondary energy in our economy. This portion of the course will cover in some detail how these energy sources are used and regulated from economic, reliability, and environmental perspectives. There will therefore be a review of legal and regulatory principles governing fossil fuel extraction and use, the coal industry, nuclear power, a range of renewable energy sources, and finally the regulation of electricity generation, transmission, and distribution. The course will conclude with a brief review of the growing role of conservation and climate change in energy markets here and to some extent abroad. There will be an essay-based final examination and class participation will certainly be encouraged.
ENRG 7840 Energy Industry Projects (3)
Students work in teams on energy projects sponsored by faculty and energy industry executives. Each team is expected to analyze and research an energy industry issue and to prepare written project reports, presentations, or cases. The final project reports, presentations, and cases are evaluated by the project sponsors. Prerequisite: ENRG 6000 or permission of instructor.

Prerequisite(s): ENRG 6000.

ENRG 7850 Renewable & Electric Power Mkt (3)
This seminar-style course provides an in-depth analysis of the wholesale power markets and how the demand for renewables is changing the way the industry operates. Students will analyze models used in the power sector. These include models of load forecasting, power dispatch with renewables, rate design, and regulatory strategies. Students will gain an understanding of the various ISO/RTO wholesale markets and how changing market rules affect wholesale market performance. Students will also research the current challenges and opportunities for sustainable development in energy use and present case studies in class.

Prerequisite(s): ENRG 6000, FINE 6020 or 6050.

ENRG 7870 Energy for Sustainable Development (3)
This course examines energy systems, renewable fuels and technologies, energy transitions, and behavioral and institutional barriers to achieving sustainable energy. It provides a survey of related topics including energy poverty, energy justice, and energy decision-making. The course provides a contemporary exploration of the economic, social, environmental, and policy issues raised by current systems of energy use. Emphasis is placed on the important issue of sustainability, the historical evolution of the world's energy systems, the principles underlying their use, and their present status and future prospects. Students will understand the fundamentals of energy related to physics, engineering, and economics; energy technologies; and opportunities in buildings, electricity, and transportation. Finally, students will gain an understanding of what it takes to achieve clean, affordable, sustainable energy.

ENRG 7920 Energy Seminar (3)
This course focuses on the role of sustainable development in energy use and its impact on the electric power industry. The first part of the class looks at what the trend of energy use means and how it might transition to a more sustainable pattern of use. The second part of the class provides an in-depth analysis of the power sector and how the demand for renewable power is changing the way the industry operates. Particular attention will be paid to alternative methods of dispatch, pricing, and regulatory strategies in ISO/RTO markets to better integrate renewable power. Students will gain exposure to current power industry developments including: generation and operation planning models, renewable mandates, transmission planning issues, smart grid devices, market rule differences among various power markets, and rate design for demand side programs. Students will research opportunities and challenges for sustainable development in energy use and present case studies in class.

ENRG 7960 Independent Study (1-3)
Independent study: Energy.

ENRG 8010 Energy Economics and Markets (3)
This course discusses global and national markets for oil, natural gas, coal, and renewable energy; examines public policies affecting energy markets including taxation, price regulation and deregulation, and investigates energy efficiency and energy security. Its objective is to help students to develop an understanding of the underlying economics of energy demand, energy supply, energy market structure, energy price mechanisms, and the relationships among energy and politics.

ENRG 8020 Economics of Energy, Env & Mkt (3)
The curriculum is aimed to enable students to systematically grasp basic concepts, basic principles and basic analysis methods of climate economics, environmental economics, and energy economics. Keep abreast of the latest developments and major research directions in the current economics on energy, environment and climate change, new ideas, new methods and new dynamics in various relevant directions; develop the ability to solve practical problems to some extent, and lay a solid foundation for future research and innovation in the field of energy and environmental management.

ENRG 8030 China Enrg System & Transition (3)
This course aims to help students understand the changing trends of the energy sector, the transformation of the energy system and the logic of the evolution of China’s energy system by learning basic concepts, theories and methods of energy transition and energy systems. It also aims to provide the "big energy" system thinking and analytical framework for students to understand the trends of China's energy industry in the process of technological change and energy transition.