SEED TECHNOLOGY AND BUSINESS (STB)

Any experimental courses offered by STB can be found at: registrar.iastate.edu/faculty-staff/courses/explistings/ (http://www.registrar.iastate.edu/faculty-staff/courses/explistings)

Courses primarily for graduate students, open to qualified undergraduates:

**STB 501: Strategic Management**
(Cross-listed with BUSAD). (2-0) Cr. 2.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
Critical analysis of current practice and case studies in strategic management with an emphasis on integrative decision making. Strategy formulation and implementation will be investigated in the context of complex business environments.

**STB 503: Information Systems**
(Cross-listed with BUSAD). (2-0) Cr. 2.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
Introduction to a broad variety of information systems (IS) topics, including current and emerging developments in information technology (IT), IT strategy in the context of corporate strategy, and IS planning and development of enterprise architectures. Cases, reading, and discussions highlight the techniques and tactics used by managers to cope with strategic issues within an increasingly technical and data-driven competitive environment.

**STB 504: Marketing and Logistics**
(Cross-listed with BUSAD). (3-0) Cr. 3.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
Integration of the business functions concerned with the marketing and movement of goods along the supply chain with the primary goal of creating value for the ultimate customer. Coordination of marketing, production, and logistics activities within the firm and with outside suppliers and customers in the supply chain.

**STB 507: Organizational Behavior**
(Cross-listed with BUSAD). (2-0) Cr. 2.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
Understanding human behavior in organizations, and the nature of organizations from a managerial perspective. Special emphasis on how individual differences, such as perceptions, personality, and motivation, influence individual and group behavior in organizations and on how behavior can be influenced by job design, leadership, groups, and the structure of organizations.

**STB 508: Accounting and Finance**
(Cross-listed with BUSAD). (3-0) Cr. 3.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
Survey of fundamental topics in accounting and finance. Financial statement reporting and analysis for agriculture firms, corporate governance issues related to financial reporting, (e.g., Sarbanes-Oxley). Basic tools and techniques used in financial management, including stock and bond valuation. How to assess and use capital budgeting methods to evaluate proposed firm investments.

**STB 509: Seed Trade, Policy and Regulation**
(Cross-listed with BUSAD). (3-0) Cr. 3.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
Cultural, financial, economic, political, legal/regulatory environments shaping an organization's international business strategy. Topics include entry (and repatriation) of people, firms, goods, services, and capital. Special attention to the institutions of seed regulation and policy. Ethical issues facing managers operating in an international context.

**STB 510: Crop Improvement**
(Cross-listed with AGRON). (3-0) Cr. 3.
*Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.*
The components of seed quality and how they are assessed in the laboratory, including traits derived from modern biotechnology. The impact of new technologies on seed quality testing. Variety maintenance procedures and breeder seed. Variety identification: phenotype and grow-out trials, isozyme testing, and DNA marker testing. Procedures for evaluating varieties. The variance tests appropriate for fixed effects analysis of variance. Statistical inference and stratification for yield trials. Use of strip plot testing.

An analysis of the defining characteristics of the seed industry and introduction to the Master in Seed Technology and Business curriculum. The tasks of crop improvement and seed production will be analytically related to basic management functions and classifications of management activities. Management tasks and roles will be analyzed and related to the public policy issues that shape the seed industry. Current issues in the seed industry including ethical and economical approaches to biotechnology, intellectual property, and corporate responsibility will be discussed.

Quantitative Methods for analyzing and interpreting agronomic and business information for the seed industry. Principles of experimental design and hypothesis testing, regression, correlation, analysis of variance, and graphical representation of data. Use of spreadsheets and statistical software for manipulating, analyzing and presenting data.

The technical operations which may be carried out on a seed lot from harvest until it is ready for marketing and use. The opportunities for quality improvement and the risks of deterioration which are present during that time. Analysis of the costs of and benefits of operations. Evaluation of equipment based on benefits to the customer and producer. Interpretation of the role of the conditioning plant and store as a focal points within the overall operations of a seed company.
STB 599: Creative Component

Cr. 2-3.

Prereq: Admission to the Graduate Program in Seed Technology and Business or approval of instructor must be obtained.

A written report based on research, library readings, or topics related to the student's area of specialization and approved by the student's advisory committee.