

KGI Henry E. Riggs School of Applied Life Sciences
Graduation Requirements
Certificate in Bioscience Management

This program is designed for current PhD students or Postdoctoral Scientists. The Certificate in Bioscience Management program requires completion of a total of 10.5 units that consists of the following required bioscience business courses.

ALS 350 Finance and Accounting Principles	1.5 units
ALS 351 Corporate Finance	3.0 units
ALS 354 Bioscience Strategy	3.0 units
ALS 359 Introduction to Bioscience Industries	3.0 units
Total	10.5 units

Courses in this program are offered on campus and online using the Minerva Active Learning Forum™ (ALF) with minimum enrollment.

ALS 350: Finance and Accounting Principles (1.5 credits)

ALS 350 is a half course survey of Financial Accounting. Accounting is frequently referred to as the "language of business," and thus, is an essential tool for all managers who strive to be effective communicators. ALS 350 involves the study of accounting from the perspective of the data user (an investor, manager, or lender), not the data provider (controller, CPA, etc.). Because of the breadth of this course, it is not reasonable to expect a student to master the subject matter. Instead, the goal of the course is to gain an appreciation and understanding of the topics covered. This does not mean that the technical aspects of accounting will be ignored, but rather that they will not be the central focus of learning. The educational goal of ALS 350 is for each student to become a competent user of accounting information. Students will learn how to interpret, understand, and use the basic financial statements. As part of this learning process, we will investigate the various rules utilized in the preparation of financial statements, the flexibility that exists in the application of these rules, the possible incentives that corporate managers face when selecting the various rules to apply, and the alternative outputs that result from these accounting policy choices.

ALS 351: Corporate Finance (3.0 credits)

This course will allow students to develop a basic understanding of financial decision making. Students will be exposed to the underlying framework of corporate finance including valuation, market efficiency and portfolio theory. The course will survey a set of special topics that includes early venture financing and IPO's.

ALS 354: Bioscience Strategy (3.0 credits)

This course is designed to develop the "general management point of view" among participants. This point of view is the best vantage point for making decisions that affect long run business performance. It views the firm as a whole, and examines how policies in each functional area are integrated into an overall competitive strategy. To achieve this overarching objective (i.e. help participants develop a general management perspective), we will devote the majority of our class time to the analysis and discussion of selected management, competitive strategy, and business policy cases. Occasional lectures will be given to elaborate on key theoretical models and frameworks or to reinforce crucial concepts. These lectures, however, will be subordinate to the case analysis. Cases provide a natural "test-bed" for theory and provide vivid examples that aid memory of concepts. While nothing can surpass first hand personal industry and managerial experience as a basis for analysis and decision-making, case analysis is an

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indispensable proxy for the kind of knowledge that can only be gained through years of experience and research. A mix of old and new business cases has been selected on a range of companies with particular focus to industry settings associated with healthcare issues, bioscience innovations and other science-based businesses with similar dynamics.

ALS 359: Introduction to Bioscience Industries (3.0 credits)

The course will equip students with an understanding of conceptual frameworks in market strategy and market assessment with reference to bioscience industries. These topics will be explored with reference to the commercialization of academic science into commercial ventures. We will examine industry dynamics within different segments of the life science industries, such as therapeutics, diagnostics, and medical devices. This includes evaluating common business models employed by entrepreneurial firms, and an introduction to analytical tools used to assess the attractiveness of a variety of life science marketplaces. Common tools used for market research, such as survey methods and qualitative interview based techniques, will be introduced. The course contains a client-sponsored team-project, in which students will conduct market research on a life science technology being commercialized by a university or start-up biotechnology company.