ASU online
ARIZONA STATE UNIVERSITY

Master of Science

Biomedical Diagnostics

College of Health Solutions

top choice

#1 in the U.S. for innovation

— U.S. News & World Report

premier university

Within the top 100 universities in the world

— Academic Ranking of World Universities

opportunities

Fifth in the nation for best qualified graduates

— The Wall Street Journal

A world class university. 100% online.

ASU's Master of Science in Biomedical Diagnostics was developed in collaboration with Dublin City University and Ventana Medical Systems.

Offered online through The International School of Biomedical Diagnostics, this professional degree is designed to give you a broad perspective of the field with a focus on applied research, technology development, reimbursement and regulation, and current perspectives in the field.

You will learn how diagnostics influences every facet of healthcare including pharmaceutical and technology development, patient management, health care finance, and health care policy. You will develop an understanding of the regulatory, business, legal, and technological facets of biomedical diagnostics.

Why ASU Online?

- Program developed in unique international collaboration
- Convenient 7.5 week courses with flexible start dates
- Earn the same degree as students attending on campus
- Personalized support system throughout your degree
- No out-of-state tuition

achievement now online

- an online community
- ASU degree
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why choose ASU?

"What we are really providing is an opportunity for anyone – located anywhere, without constraints – to have access to the educational opportunities of a great research university and all of the faculty that we have assembled."

— President Michael Crow

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Required Courses

BMD 501 Introduction to Biomedical Informatics

Provides an overview of the field of biomedical informatics combining perspectives from medicine, computer science, and cognitive/social science for use of computers and information in health care and biomedical sciences, covering specific applications and general methods, current issues, capabilities and limitations of biomedical informatics.

BMD 510 Current Perspectives in Biomedical Diagnostics

Provides an overview of the Biomedical Diagnostics Industry covering research, policy, and legal aspects of the field. Students work in teams to research and develop a case study report related to biomedical diagnostics.

BMD 511 Health Economics, Policy, and Payment Models

Provides a thorough grounding in selected microeconomic concepts and models that are relevant for the economic aspects of health care but also have more general applications.

BMD 598 Principles of Diagnostic Technology 2: Immunology

The purpose of this module is to provide a detailed understanding of the theory and applications of advanced diagnostic assay systems and devices. Students gain knowledge in immunoassay design and validation with particular attention to the manipulation of the immune system for disease recognition.

BMD 667 FDA Regulation

Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration.

Elective Courses

BMD 502 Foundations of Biomedical Informatics Methods I

The course explores techniques in mathematics, logic, decision science, computer science, engineering, cognitive science, management science, and epidemiology and demonstrates the application to healthcare and biomedicine.

BMD 598 Biomedical Device Design

Hybrid class/lab where a mixture of lecture, hands on, demos, and lab experiments are used to convey the breadth of medical devices in the medical diagnostic device industry. Students learn, reverse engineer, and build simple devices as well as learn about the FDA, market, business, and design side of these products.

BMD 598 Molecular Diagnostics

Primer on nucleic acid structure, genome types, RNA, mutations, molecular diagnostics platforms, applications such as infectious disease, cancer, pharmacogenomics, risk management, current technologies such as DNA amplification, probes, DNA sequencing, mRNA expression levels, sample preparation, and methods on the horizon.

Culminating Experience/Research Courses

BMD 592 Research

Biomedical Diagnostics Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication.

BMD 593 Applied Project

Students complete an experiential learning experience as part of their applied project on a topic of relevance to the diagnostics field and their career interests.