

ADVANCE YOUR CAREER IN ONE OF THE  
FASTEST GROWING INDUSTRIES IN CALIFORNIA

# master of science

biotechnology and bioinformatics



**CSUCI** CALIFORNIA STATE UNIVERSITY  
CHANNEL ISLANDS



# ms bioinformatics ms biotechnology ms bioinformatics

The **MASTER OF SCIENCE IN BIOTECHNOLOGY AND BIOINFORMATICS** degree seeks to provide the student with broad training and education in:

- Scientific principles and knowledge underlying advances in biotechnology
- Basic laboratory techniques in research and development
- Legal and intellectual property issues
- Skills and attributes important in business and bioentrepreneurship

Furthermore multi-disciplinary learning approach encourages team-working and effective expression of ideas



### **CURRICULUM**

The curriculum is designed for completion in two years and requires a team project in an academic or industry location. With the wide range of flexibility, students are able to create their program to fit their specific needs.

Students admitted to the program can choose between a biotechnology or a bioinformatics track. The MS degree is offered by the Biology program in collaboration with the Computer Science, Business and Economics program

Backed by Alfred P. Sloan foundation funding, the masters' program addresses the needs of students and industry through rigorous interdisciplinary training.

### **CAREERS**

The program aims to prepare students for diverse careers in the Biotechnology/Bioinformatics sector. These careers include:

- Research positions in laboratories
- Careers in regulation of drug approval and other biotechnology applications
- Management positions in the biotechnology industry
- Positions at companies that are investing in biotechnology
- Working for law firms in the biotechnology area

# courses **Courses** courses

## **CORE COURSES**

CSU Channel Islands Master of Science in Biotechnology and Bioinformatics offers students a solid and cutting edge group of core courses that provide for exciting and rewarding careers in next-generation science and technology.

### **FOR BIOTECHNOLOGY EMPHASIS:**

#### **REQUIRED COURSES:**

- MGT 471** Project Management
- BINF 500** DNA and Protein Sequence Analysis
- BIOL 502** Techniques in Genomics and Proteomics
- BIOL 503** Biotechnology Law and Regulation
- BIOL 504** Molecular Cell Biology
- BIOL 505** Molecular Structure
- BIOL 600** Team Project
- BIOL 601** Seminar Series in Biotechnology and Bioinformatics

#### **ELECTIVES:**

- BIOL 506** Molecular Evolution
- BIOL 507** Pharmacogenomics and Pharmacoproteomics
- BIOL 508** Advanced Immunology
- BIOL 509** Plant Biotechnology
- MGT 421** Human Resource Management

### **FOR BIOINFORMATICS EMPHASIS:**

#### **REQUIRED COURSES:**

- MGT 471** Project Management
- BINF 500** DNA and Protein Sequence Analysis
- BIOL 502** Techniques in Genomics and Proteomics
- BIOL 503** Biotechnology Law and Regulation
- BINF 510** Database Systems for Bioinformatics
- BINF 511** Computational Genomics
- BINF 513** Programming for Bioinformatics
- BIOL 600** Team Project
- BIOL 601** Seminar Series in Biotechnology and Bioinformatics

#### **ELECTIVES:**

- BINF 512** Algorithms for Bioinformatics
- BINF 514** Statistical Methods in Computational Biology
- PHYS 445** Image Analysis and Pattern Recognition
- MGT 421** Human Resource Management



# requirements requirements requirements

## **REQUIREMENTS**

Applicants must have a bachelor's degree or higher from an accredited university with competence in a science field related to the chosen area of emphasis.

The applicant's undergraduate transcript and GPA should reflect the ability to handle advanced science course work (usually a 3.0 or higher in science courses). All applicants must also submit scores from the general GRE or MCAT test. Additionally, two letters of recommendation along with a two page essay are required.

# application application application



## **APPLICATION PROCESS:**

Applicants seeking admission to the professional MS in Biotechnology and Bioinformatics program must be officially accepted into the University, as well as, the academic area.

Applicants will be evaluated by the program admissions committee. No arbitrary grade point or test score will be used in the evaluation process.

## **EXTERNAL ADVISORY BOARD:**

An external advisory board consisting of leaders from the industry supports the program. The Board advises the program on issues of curriculum, recruitment, internship creation and other topics. Members of the board serve as a valuable link to industry for students to secure jobs, network and obtain information about different occupations and fields.

Matthew D. Arnold/Amgen

Jim Bray/PTI Advanced Filtration

Wayne Davey/Amgen

Kenneth A. Feldmann/Ceres, Inc.

James J. Harber/Central Coast Biotechnology Center

Timothy D. Osslund/Amgen

John S. Philo/Alliance Protein Laboratories

Kevin Reagn/BioSource International

Bill J. Tawil/Baxter Healthcare Corporation

FLEXIBLE PROGRAM TO MEET THE NEEDS  
OF FULLY EMPLOYED PROFESSIONALS.

TAILOR YOUR STUDIES TO YOUR EXISTING  
OR FUTURE BIOTECHNOLOGY CAREER.

BENEFIT FROM THE STRONG CONNECTION  
TO INDUSTRY. OVER 40 BIOTECH COMPANIES  
AND A GROWING NUMBER OF START-UPS  
ARE WITHIN A 40 MILE RADIUS OF CSUCI'S  
CAMPUS.

TO RECEIVE APPLICATION MATERIALS:  
CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS  
Biology Program  
Department of Extended Education  
One University Drive, Camarillo, CA 92012  
Phone:(805) 437-2736  
E-mail: [biotech@csuci.edu](mailto:biotech@csuci.edu)  
Web site:[http://biology.csuci.edu/bio\\_mos.htm](http://biology.csuci.edu/bio_mos.htm)

Note:Program subject to funding availability and  
CSU system approval.

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BIOLOGY PROGRAM

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