Computer Information Systems

Associate in Science Degree in Information Systems
Certificate of Proficiency: Database Administration

The associate degree in Computer Information Systems, based on guidelines from the Association for Computing Machinery, prepares students for transfer to business- or technically-oriented four-year degree programs at the junior level.

Careers for graduates from related four-year degree programs include business application programmer, business process specialist, database administrator, information systems analyst, network engineer, and system sales associate.

PROGRAM OUTCOMES

- Transfer to a four-year college as a junior;
- Explain, interpret, and develop computer information policies and procedures;
- Create, edit, and use printed and online technical documentation and literature;
- Understand business organizations and practices, and the role of information technology in organizations;
- Develop, describe, understand, and apply network protocols and technology;
- Determine the feasibility of a computer information system, estimate its cost, and manage its implementation;
- Design, program, implement, and document a computer application or website to install and implement computer systems;
- Work effectively individually and in workgroups to install and implement information systems;
- Communicate in written documents and in oral presentations in technical or business settings.

Admission requires a high school diploma or equivalent, two years of high school algebra, geometry, and computer literacy. Applicants must demonstrate competency in English composition, reading and mathematics as determined by placement testing. Students who are required to complete foundations courses must plan their curriculum with an academic advisor.

Mercer County Community College has articulation agreements for Information Systems graduates to transfer to Drexel University, Fairleigh Dickinson University, and NJIT. Other institutions that students have successfully transferred to include Rider University, Penn State, The University of Maryland, and The University of Delaware.

The Database Administration certificate of proficiency teaches the skills to manage and maintain database management systems (DBMS) software and advanced functionalities of Microsoft Excel to support administrative decision-making, including mainstream products such as Oracle and Microsoft SQL Server. Students who demonstrate solid academic performance will be encouraged to complete the MCDBA core examination and Oracle certification exams.

Curriculum

Code		Course (lecture/lab hours)	Credits
FIRST SEMESTER			
ENG	101	English Composition I (3/0)	3
NET	102	Introduction to PC Hardware and Software (2/3)	3
IST	—	Computer Concepts requirement (2/2)[1]	3
MAT	—	Mathematics elective[2]	4
—	—	Humanities general education elective	3
SECOND SEMESTER			
ACC	111	Financial Accounting (4/0)	4
CMN	111	Speech: Human Communication (3/0) OR	
CMN	112	Public Speaking (3/0)	3
ENG	102	English Composition II (3/0)	3
NET	104	Fundamentals of Computer Networks (2/2)	3
—	—	Programming elective[3]	3-4
THIRD SEMESTER			
COS	102	Computer Science I (3/2)	4
ECO	111	Macroeconomics (3/0)	3
IST	256	Systems Analysis (2/2)	3
—	—	Lab Science elective[4]	3-4
—	—	Social Science general education elective	3
FOURTH SEMESTER			
BUS	230	Global Environment of Business (3/0)	3
HPE	110	Concepts of Health and Fitness (1/2)†	2
IST	251	Management of Computer Technology (2/2)	3
IST	253	Database Concepts (2/2) OR	
CIS	173	PC Applications: Database (2/2)	3
—	—	IST or NET elective (2/2)	3
—	—	IST or NET elective (2/2)	3
			65-67

[1] Select from IST 102 (preferred), 109.

[2] Select from MAT 151 (preferred), 146.

[3] Select from COS 101; IST 107, 108, or (with IST 109 prerequisite) 123.

[4] PHY 101 or 111 recommended.

†**CSW 100 is a preferred alternative**; HPE 111 is an acceptable alternative.

Certificate Curriculum

Code		Course (lecture/lab hours)	Credits
ENG	101	English Composition I (3/0)	3
IST	109	Introduction to Programming (2/2)	3
IST	222	PL/SQL Programming (2/2)	3
IST	250	Decision Support Using MS Excel (3/2)	4
IST	253	Database Concepts (2/2)	3
IST	260	SQL Server Database Design (3/2)	4
IST	261	SQL Server System Administration (3/2)	4
IST	262	Oracle SQL (3/2)[1]	4
IST	263	Database Administration I (3/2)[1]	4
IST	264	Database Administration II (3/2)[1]	4
			36

[1] Must be taken in sequence.