MERCY COLLEGE

Integrated Skills Course:

The integrated Skills ESL course is offered during Term 1, targeting intermediate levels of language learner. Students will develop their ability to master everyday English communication skills in an American context, socially, professionally and academically. Students will also improve their listening, speaking, writing and reading skills, with a special focus on both accuracy and fluency. In addition, students will increase their ability to interact with native speakers through practicing vocabulary, presentation skills, and body language.

EAP Courses: High Intermediate and Advanced

- **EAP High Intermediate**: Minimum of 5.0 IELTS or equivalent
- **EAP Advanced**: Minimum of 5.5 IELTS or equivalent

The English for Academic Purposes are offered during Terms 2 and 3. The course teaches students the English language and critical thinking skills needed to achieve academic success according to American university/college expectations. As they progress through the modules, students develop skills in academic writing, academic reading, academic discussion(s) study skills, critical thinking, grammar and vocabulary typical of academic writing and discussions. They learn to write critically through well-structured sentences, paragraphs and essays as well as to read critically by applying a variety of reading strategies to different text types. For graduate students the Academic Verbal Communication objectives will be met using in-class small group discussions that simulate post-graduate seminars and delivering and listening to individual presentations. For example, contribute fluently and naturally to a conversation about a complex or abstract topic and participate in a linguistically complex academic discussion.

The program aims to cover:
- Academic writing skills
- Academic reading skills
- Critical thinking skills to support reading and writing
- Grammar and vocabulary in context to support reading and writing
- Academic discussion skills
- Study skills

Academic Success Skills

This course, offered over the 3 terms, will focus on the social, academic and acculturation skills required to succeed in an American higher education setting and on the campus of Mercy College. By the end of the courses, students will have developed the following competencies:

- Planning and study skills,
- city, campus and classroom culture,
- research and analysis,
- note taking,
- time management,
- group work,
- academic integrity and its application in American higher education,
- active and collaborative participation in academic discussions,
- creative and critical thinking / decision-making skills,
- flexible problem solving,
- positive and effective responses to differences in values, attitudes, opinions and ideas,
- awareness of academic culture, norms, etiquette, and behaviors,
- effective presentation skills and answer questions about abstract topics clearly and in detail
- give a presentation on an academic topic in their field of specialization, using linguistically complex language

Academic Support and Tutorials

In a small group, students are encouraged to talk, think and share much more readily than in a larger group. The aim is not simply to solidify the understanding of content from the weekly class lecture, but also learn to work with that content within a group situation, and within the parameters of each given academic discipline. Each small group seminar is connected to a credit course in which students are enrolled.

- In the Academic Support setting, students will develop the following academic skills:
- deep learning and critical thinking through discussions on course content
- understanding course expectations,
- staying on top of assignments and readings,
- academic planning to effectively identify and manage course requirements,
- problem solving diagnosing, theorizing, evaluating evidence, analyzing
- synthesizing,
- using the language of the discipline
- exploring the rules of the discipline,
- making an argument and defending a viewpoint,
- using context to clarify and understand content.

Immersive Experience

Mercy College offers a range of co-curricular and extra-curricular activities that ensure all international students enjoy a truly immersive experience, nurturing individual success and community connections. To maximize student integration and immersion into the Mercy College culture and its range of resources, the program offers a variety of on and off campus experiences that meet the needs of each cohort of students.

MS in Computer Science (CISC)

Term 1

CISC 505 - Object-Oriented Programming and Analysis of Algorithms

This course uses Java to cover object-oriented programming. Representation and implementation of major data structures, essential algorithms such as searching, sorting, hashing, and graphs, and analysis of the efficiency of algorithms are.

Term 2

CISC 510 - Theoretical Concepts in Computer Science

This course is an introduction to the theoretical concepts in Computer Science. Concepts include logic, proofs, relations, functions, counting, probability, regular, context-free, and computable (recursive) languages with finite state machines, pushdown automata, and Turing machines, along with basic concepts of computability theory and NP-theory.

Term 3

CISC 520 - Database Management Systems

Students learn the fundamentals of database management systems, including data representation, conceptual data modeling, entity relationship diagrams, the relational model, normalization, and database design and implementation. Concepts of data integrity, security, privacy, and concurrence control are introduced. Students design and implement a major database application project.

AND

CISC 515 - Software Design and Development (for Software Development specialization)

Students will learn the principles of software design and development, and software engineering. Topics to be covered include software design and processes, requirements and specifications, software validation and testing strategies, software evolution, project management, documentation, and quality assurance. Upon completion of the course, students should have a fundamental understanding of the software life cycle and the processes involved

in the design, development, implementation and maintenance of complex software systems, and the associated documentation of design, program and training materials, as well as an understanding and development of the interpersonal and communication skills required for a career in computer science.

OR

CISC 530 - Mathematical Methods for Data Analysis (for Data Science specialization)

This course prepares the student for data analysis. Topics discussed include probability axioms, counting methods, random variables, probability distributions and densities, expected value, variance, correlation, conditional distributions (mean and variance), special probability models, law of large numbers, central limit theorem, statistical estimation, unbiasedness, consistency, efficiency, hypothesis testing, p-value, confidence intervals, nonparametric methods, ANOVA, and least squares. Applications for data science problems are discussed.

MS in Cybersecurity (IASP)

Term 1

IASP 500 - Topics in Information Security

This course provides a broad view of information assurance and security and its major subjects: protection of information assets; access to information system; hacking; legislation and industrial standards. In addition, this course will serve as a guideline for students to make their course selections. This course is offered in a hybrid of online and on-campus format in that students are asked to meet on campus three times in a semester.

Term 2

IASP 505 – Foundations of Cybersecurity Sciences

This course covers cybersecurity majors with background knowledge units that are required by major graduate-level cyber security courses. It focuses on the fundamental concepts related to networks, operating systems, database systems, and computer programming/scripting languages. Students learn both the concepts and

the related skill sets in this course. The course provides a fast-paced introduction to scripting languages, core concepts of computer networks, and various system issues developed in computer operating systems and database management systems.

Term 3

TWO FROM THE FOLLOWING OPTIONS:

IASP 525 Distributed Databases and Security

This course introduces the concepts of database theories, secure database and methods of protecting data. It covers the discretionary and mandatory access controls, secure database design, data integrity, secure architectures, secure transaction processing, information flow controls and inference controls, and discusses various secure database models including distributed database system.

OR

IASP 550 Intrusion Detection & Prevention

This course introduces network firewall security. It will cover basic installation techniques, discuss how to make an intelligent choice of firewall technology and present basic firewall troubleshooting. Moreover, it will cover different intrusion detection systems and their signatures. Students will complete hands-on exercises and case projects for testing and evaluating various firewall techniques.

OR

IASP 580 IT Audit & Compliances

This course reviews the critical skills and methodologies used to ensure compliance to public- and private-sector regulatory requirements, starting from understanding organization's regulations, rules, and laws. This course covers how to facilitate internal and external audit requirements, ensuring proper levels of controls, both IT and process level.

Term 1
MBAA 501 - Financial Accounting
Study of basic accounting concepts and methods, and their significance to management and to the financial analyst. Topics include an introduction to financial statement analysis, the measurement of income and capital, accounting for fixed assets, inventory costing and price level changes, measuring and accounting for corporate debt, corporate investment in securities, and computer applications in accounting. This course does not require previous training in accounting.

Term 2
MBAA 502 - Corporate Finance
A survey of the financial structure of the firm, its demand for funds to finance the acquisition of assets and the sources available to satisfy this demand. Analysis of the firm's capital structure and alternative financing sources and techniques will also be covered. Major attention will be on the capital budgeting, the investment and dividend decisions of a corporation. The course also studies the structure of the financial system, with emphasis on the supply and demand for lendable funds and the term structure of interest rates.

Term 3
MBAA 507 - Introduction to Quantitative Analysis
This course is an introduction to the quantitative skills that business students will need in their professional careers. Statistical concepts include methods of summarizing and reporting data such as descriptive statistics, frequency distributions, box plots, correlation, and measures of expected value. Probability concepts include methods of estimating outcomes with probability rules, Venn diagrams, probability trees, binomial calculations, and expectations of normally distributed data. Sampling concepts include methods of making inferential estimates based on sampling and confidence interval procedures. This course makes extensive use of Microsoft Excel to apply the class content to a range of business uses.
AND
MBAA 601 - Quantitative Methods in Business Research
Statistical methods applicable to business research and decision-making. Includes major probability distributions: binomial, normal, T. F and Chi square, tests of hypotheses for means, regression and correlation techniques, time series analysis, and index number methods. Extensive use of computers is required.

MS in Business Analytics (ANLC)

Term 1
MBAA 601 - Quantitative Methods in Business Research
Statistical methods applicable to business research and decision-making. Includes major probability distributions: binomial, normal, T. F and Chi square, tests of hypotheses for means, regression and correlation techniques, time series analysis, and index number methods. Extensive use of computers is required.

Term 2
ANLC 751 - Introduction to Managerial Analytics
This course will provide a comprehensive introduction to analytics including the interpretation and communication of analytics outcomes to facilitate objective decision-making at the executive level. Students engage in hands-on learning of analytics using Excel.

Term 3
ANLC 752 - Data Management
Concepts, best practices and common techniques for managing data are covered: relational data modeling, data warehousing, data governance, 'Big Data' and database administration. Students engage in hands-on learning using contemporary data management tools and techniques, such as SQL programming language, to develop their knowledge and experience of data management.
AND
ANLC 753 - Visualization
Students learn to design and present data to an observer in a way that yields insight and understanding. This course focuses on the design, construction and presentation of data visualizations from the business perspective using Tableau. This course will also include lessons on the psychology of data visualization incorporating concepts such as attention/pre-attention, perception and cognition to enable a better understanding of how data visualization can be optimized