

INDUSTRIAL SYSTEMS ANALYTICS

EVENING & ONLINE

REQUIRED COURSEWORK

(46 SEMESTER HOURS)

CPS 200 - Programming I
CPS 210 - Database Basics
CPS 212 - Programming II
CPS 313 - Advanced Programming
CPS 318 - Computational Modeling and Visualization
CPS 442 - Data Management and Warehousing
CPS 452 - Information Technology Project Management
CPS 455 - Predictive Analytics
DAT 401 - Operations Research
DAT 402 - Advanced Modeling Techniques and Visualization (WI)
MAT 220 - Probability and Statistics
MAT 231 - Calculus I (4 semester hours)
MAT 250 - Discrete Mathematics
MAT 320 - Applied Statistics
MAT 362 - Linear Algebra

Industrial Systems Analytics (B.S.)

Data analysis applies to a world that goes beyond business decisions, as today information and data influences every aspect of our world. Organizations need to hire graduates who can help them become smarter and more efficient at predicting future opportunities, as well as risks.

Industrial systems analytics will prepare students to design, develop, implement and operate complex processes and systems in industry and elsewhere.

Lakeland University's bachelor of science in industrial systems analytics meets the needs of students and employers.

This program is highly sought by regional employers and will immerse students across the fields of technology, programming, statistics and data analysis and visualization.

Students who have successfully completed a B.S. in Industrial Systems Analytics from Lakeland University should be able to:

- Develop a computer program using programming languages.
- Properly manage databases.
- Apply project management principles and techniques to data sciences projects
- Assess the quality of data input, interpret results, and investigate issues for large data sets using appropriate technical methods and models.
- Use mathematical methods and statistical methods and techniques in models and data science.
- Develop a statistical model using statistical software packages.
- Formulate and use appropriate models of industrial data analysis to solutions to industry-related challenges.

Notes: See page 2 for notes.



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Education designed for the working adult.

NOTES

A student completing a major in *Industrial Systems Analytics* is not eligible to earn a minor in *Computer Science*.

INTERDISCIPLINARY STUDIES

RHETORICAL SKILLS

GEN 110 - Composition I: Academic Writing

GEN 112 - Composition II: Argumentation and Research

QUANTITATIVE SKILLS

MAT 130 - Intermediate Algebra

or

MAT 150 - Statistics for Everyday Life

THE CRITICAL THINKING CORE SEQUENCE

GEN 130 - General Studies Core I: Foundations of Critical Thinking (*Exempt with at least 30 transfer credits*)

GEN 3XX - General Studies Core II: Exploring the Human Condition (*Exempt with at least 75 transfer credits*)

GEN 4XX - General Studies Core III: Shaping the Future

DISTRIBUTIONAL STUDIES

Select a minimum of 3 semester hours from 7 of the 8 following categories:

Art, Music and Theatre (ART, GDN, MUS, THE)

History and Political Science (HIS, POL)

Literature and Writing (ENG, WRT)

Excludes ENG 230, WRT 211 and WRT 212

Mathematics (MAT)

Excludes MAT 130 and MAT 150

Natural Sciences (BIO, CHM, PHY and GEN 183)

Philosophy and Religion (PHI, REL)

Social Sciences (ANT, CRJ, DVS, ECN, SOC, PSY)

World Languages (CHI, GER, JPS, SPA or other)

Upon completion of the requirements for the Bachelor of Science degree through the Lakeland University evening, weekend and online program, degree-earning students will have:

- earned at least 120 semester hours of college credit, with a minimum of 30 semester hours having been completed through Lakeland University;
- satisfied the requirements of at least one academic major;
- completed the General Studies requirements; and
- maintained a cumulative 2.0 grade point average in both the major and in all coursework taken through Lakeland University.

The Lakeland University evening, weekend and online program's liberal arts component enables students to develop the necessary skills and knowledge to communicate clearly, inquire methodically, evaluate rationally and reason validly. These skills are developed through courses in:

- Distributional Studies, which develop knowledge in areas outside the major; and
- Interdisciplinary Studies, which encourage the integration of knowledge and values.



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