Business Analytics and Information Technology

Business Analytics and Information Technology Major

Undergraduate Program in New Brunswick

The Field

Business Analytics and Information Technology (BAIT) is Rutgers Business School's quantitative and computing major. It covers information technology, data analysis and decision support, which are becoming more strongly intertwined and are essential components of the modern enterprise. Most modern organizations use computer systems to manage data and operations, analyze data, and support operational decision-making. The BAIT major trains students in the technology and quantitative skills needed for the converging fields of information technology and business analytics. Skills taught include relational database design and management, object-oriented computer programming, web server technology, forecasting, large-scale statistical analysis, data mining, decision analysis, optimization modeling, and risk modeling.

Most business information systems currently being developed include not only aspects of data management and online transactions, but also sophisticated data analysis and often aspects of decision support – that is, helping organizations to make better decisions, or in some cases automating operational-level decision making. BAIT prepares students to work on all levels of developing such systems. Graduates will be particularly well-positioned to work on "big data" projects – analyzing data on unprecedented scales. In addition, the RBS core curriculum also provides students with a fundamental understanding of all the business functional areas with such systems and their development teams will interact, and the basic skills needed to function efficiently in teams and assume leadership and management roles. Students should have an aptitude for computing and quantitatively-oriented material.

Key Facts

- BAIT students have been recruited by ADP, Becton Dickinson, Burlington Coat Factory, Ernst and Young LLP, Goldman Sachs, Mondelez, New York Life Investment Management, PricewaterhouseCoopers, Teradata, Verizon, Deloitte, and UPS

- Business graduates with strong information technology and analytical skills are highly prized, with demand exceeding supply for most of the last decade

- The BAIT major teaches skills in Information Technology, Data Analysis, and Decision Analysis and Modeling

Career Paths

Graduates can expect to work on information technology project development teams in a wide variety of organizations. The projects concerned will involve collecting, managing, analyzing, and acting on business data. In addition, graduates may work directly on analyzing particular datasets or operational decisions and plans. Graduates will work in all employment sectors, including consulting, consumer products, financial services, government, health care, information services, retail, technology services, and transportation/logistics.

Sample Occupations

- Applied Statistician

- Business Analyst

- Computer Security Specialist

- Computer Systems Analysts

- Computer Systems Design and Related Services

- Consultant

- Operations Research Analyst

- Risk Analyst

- Statistical Analyst

- Systems Analyst

Compensation

According to the U.S. Bureau of Labor Occupational Outlook Handbook, bachelor's degree candidates in business analytics & information technology received a median salary of $70,000.

How to Apply

- **Learn more about the admissions process (/undergraduate-new-brunswick/admissions)**

- **(PDF) BAIT major factsheet (/sites/default/files/documents/factsheet-undergraduate-new-brunswick-business-analytics-information-technology.pdf)**

Curriculum

RBS Core Courses

Required Courses

REQUIRED BAIT COURSES

Course	Credits	Notes and Prerequisites
33:136:388 Foundations of Business Programming	3	
33:136:485 Time Series Modeling for Business	3	*pre-req: 33:136:385*

REQUIRED BAIT COURSES

33:136:470 Business Data Management	3	*pre-reqs: 33:136:370 or 33:010:458; **and** 33:136:388*
33:136:400 Business Decision Analytics under Uncertainty	3	*pre-req: 33:136:386*
BAIT elective	3	*must be taken in the MSIS (136) department*
BAIT elective	3	
BAIT elective	3	
Credit Total	21	

Elective Courses

AT LEAST ONE COURSE FROM THE FOLLOWING ELECTIVES

Course	Credits	Notes and Prerequisites
33:136:494 Data Mining for Business Intelligence	3	
33:136:465 Enterprise Architecture	3	*pre-reqs: 33:136:370 or 33:010:458 and 33:136:388*
33:136:471 Information System Security	3	*pre-reqs: 33:136:370 or 33:010:458*
33:136:487 Large Scale Business Data Analysis	3	*pre-reqs: 33:136:370 or 33:010:458*
33:136:486 Optimization Modeling	3	*pre-req: 33:136:386*
33:136:440 Relational Database and Web Applications	3	*pre-reqs: 33:136:370 or 33:010:458*
33:136:405 Risk Modeling	3	*pre-req: 33:136:386*
33:136:455 Introduction to ERP	3	*pre-reqs: 33:136:370 or 33:010:458*
33:136:450 Investment Modeling with 'R'	3	*pre-reqs: 33:136:370 or 33:010:458*

AT MOST TWO COURSES FROM THE FOLLOWING ELECTIVES

Course	Credits	Notes and Prerequisites
01:960:467 Applied Multivariate Analysis	3	*Please check possible pre-req on the* **Schedule of Classes (http://sis.rutgers.edu/soc/#home)**
01:198:425 Computer Methods in Statistics	4	*Please check possible pre-req on the* **Schedule of Classes (http://sis.rutgers.edu/soc/#home)**
01:198:419 Computer Security	4	*Please check possible pre-req on the* **Schedule of Classes (http://sis.rutgers.edu/soc/#home)**
01:198:439 Intro to Data Science	4	
01:198:344 Design and Analysis of Computer Algorithms	4	*Please check possible pre-req on the* **Schedule of Classes (http://sis.rutgers.edu/soc/#home)**
01:220:481 Economics of Uncertainty	3	*Please check possible pre-req on the* **Schedule of Classes (http://sis.rutgers.edu/soc/#home)**
01:220:481 Economics of Uncertainty	3	*Please check possible pre-req on the* **Schedule of Classes (http://sis.rutgers.edu/soc/#home)**

BAIT Major Special Notes

- Starting in Summer 2024, 33:390:310 Financial Management for Finance majors will not be offered. All RBS students will take 33:390:300 Financial Management regardless of major. A grade of B or higher will be required in 33:390:300 to declare the finance major or finance concentration and to take any additional courses in the finance department.

- If you major in Accounting as your first, second or third major, you are required to take 33:010:458 Accounting Information System and 33:140:320 Business Law I. You will not earn credit for taking 33:136:370 Management Information System. You can earn credit towards graduation if you take 33:522:334 Business Ethics but it will not fulfill a major requirement.

- Students with more than one Business School major may only double count **one** RBS course between those majors.

- Students with multiple prior programming courses may petition to replace Foundations of Business Programming (33:136:388) with an additional MIS elective (136) from the list of elective courses; contact the Management Science and Information Systems **department (/faculty-research/management-science-information-systems)** for details.

- **BAIT Curriculum Guidesheet (https://myrbs.business.rutgers.edu/sites/default/files/uploads/ugnb-students/info-sheet-business-analytics-information-technology.pdf)**

- **Course Descriptions/Syllabus Directory (https://myrbs.business.rutgers.edu/syllabi)**

- **Management Science and Information Systems Department (https://www.business.rutgers.edu/faculty-research/management-science-**

information-systems)

VISIT(/VISIT)

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APPLY (/UNDERGRADUATE-NEW-BRUNSWICK/ADMISSIONS)