

Rochester INSTITUTE OF TECHNOLOGY

Minor Program proposal form

GCCIS

**Information Sciences & Technologies department**

**Name of Minor:** Database Design and Development

**Brief description of the minor to be used in university publications**

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| Database design and development provides students with the advanced knowledge and skills necessary to design, implement, and manage database systems within a broad range of domains. Data is an important component of any organization and the management and storage of that data is critical. Computing professionals with specialized knowledge of database systems are needed to ensure that data is being stored in an efficient, accessible, yet secure manner that meets the needs of the organization. |

**1.0 Minor Program Approvals**

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|  | Approval request date: | Approval granted date: |
| Academic Unit Curriculum Committee |  |  |
| College Curriculum Committee | 3/20/12 | 3/27/12 |
| Inter-College Curriculum Committee |  |  |

**2.0 Rationale:**

A minor at RIT is a related set of academic courses consisting of no fewer than 15 semester credit hours leading to a formal designation on a student's baccalaureate transcript

How is this set of academic courses related?

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| These courses are all related to database development and management. They are designed to build from basic database design principles and the SQL language on to more advanced database topics. |

**3.0 Multidisciplinary involvement:**

If this is a multidisciplinary minor spanning two or more academic units, list the units and their role in offering and managing this minor.

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**4.0 Students ineligible to pursue this minor:**

The purpose of the minor is both to broaden a student's college education and deepen it in an area outside the student’s major program. A minor may be related to and complement a student’s major, or it may be in a completely different academic/professional area.   It is the responsibility of the academic unit proposing a minor and the unit’s curriculum committee to indicate any home programs for which the minor is not a broadening experience.

Please list below any home programs whose students will not be allowed to pursue this minor, provide the reasoning, and indicate if this exclusion has been discussed with the affected programs:

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| Information Sciences & Technologies baccalaureate students because they already have the option of taking these courses as part of their standard plan of study. |

**5.0 Minor Program Structure, Sequence and Course Offering Schedule:**

Describe the structure of the proposed minor and list all courses, their anticipated offering schedule, and any prerequisites.

* All minors must contain at least fifteen semester credit hours;
* Minors may be discipline-based or interdisciplinary;
* In most cases, minors shall consist of a minimum of two upper division courses (300 or above) to provide reasonable breadth and depth within the minor;
* As per New York State requirements, courses within the minor must be offered with sufficient frequency to allow students to complete the minor within the same time frame allowed for the completion of the baccalaureate degree;
* Provide a program mask showing how students will complete the minor.

Narrative of Minor Program Structure:

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| This minor provides a cohesive set of courses that will move students from a fundamental ability to work with database software up to advanced knowledge of database systems and the database development process.  The minor starts with a foundation course where students learn the basics of data modeling, the relational model, normalization, and Structured Query Language (SQL). This foundation knowledge can be gained through either Introduction to Database and Data Modeling (ISTE-230) or through the CS course Principles of Data Management (CSCI-320).  This is followed by three intermediate courses. Information Requirements Modeling (ISTE-430) provides students with the skills needed to effectively capture organizational requirements and compose data models that accurately reflect those requirements. Database Connectivity and Access (ISTE-330) teaches students how to develop software that interacts with back-end databases. In Data Management and Access (ISTE-436), the focus is on the design, implementation, maintenance, and security issues associated with large-scale database management systems.  This is followed by a choice of one of two capstone courses. ISTE-432 Data Application Development, dealing with the issues surrounding different types of database systems, or ISTE-434 Data Warehousing, covering the development of data warehouses and the issues surrounding them. |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Number & Title | SCH | Required | Optional | | Fall | Spring | Annual/Biennial | Prerequisites |
| ISTE-230 Intro to Database & Data Modeling  -OR-  CSCI-320 Principles of Data Management | 3 | Yes |  | | X | X | Annual | ISTE-120 for ISTE-230  OR  MATH-190  CSCI-142 for CSCI-320 |
| ISTE-430 Info Requirements Modeling | 3 | Yes |  | | X | X | Annual | ISTE-230 |
| ISTE-330 Database Connectivity and access | 3 | Yes |  | | X | X | Annual | ISTE-230 |
| ISTE-436 Data Management and Access | 3 | Yes |  | | X | X | Annual | ISTE-330 |
| ISTE-432 Database Application Development  -OR-  ISTE-434 Data Warehousing | 3 | Yes |  | | X | X | Annual | ISTE-330 for ISTE-432  OR  ISTE-230 and 3rd year standing for ISTE-434 |
| Total credit hours: | | | | 15 | | | | |

**Minor Course Conversion Table: Quarter Calendar and Semester Calendar Comparison**

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| **Directions: The tables on this page will be used by the registrar’s office to aid student’s transitioning from the quarter calendar to the semester calendar.**  **If this minor existed in the quarter calendar and is being converted to the semester calendar please complete the following tables.**  **If this is a new minor that did not exist under the quarter calendar do not complete the following tables.**  Use the following tables to show minor course comparison in quarter and semester calendar formats. Use courses in the (2011-12) minor mask for this table. Display all required and elective minor courses. If necessary clarify how course sequences in the quarter calendar convert to semesters by either bracketing or using some other notation. |

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| Name of Minor in Semester Calendar: | Database Design and Development |
| Name of Minor in Quarter Calendar: | Database Design and Development |
| Name of Certifying Academic Unit: | Information Sciences & Technologies department |

| **QUARTER: Current Minor Courses** | | | **SEMESTER: Converted Minor Courses** | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| Course # | Course Title | QCH | Course # | Course Title | SCH | **Comments** |
| 4002-360  OR  4003-385 | Introduction to Database and Data Modeling  OR  Concepts of Data Management | 4 | ISTE-230  OR  CSCI-320 | Intro to Database & Data Modeling  OR  Principles of Data Management | 3 |  |
| 4002-461 | Fundamentals of Data Modeling | 4 | ISTE-430 | Info Requirements Modeling | 3 |  |
| 4002-484 | Fundamentals of Database Client/Server Connectivity | 4 | ISTE-330 | Database Connectivity and access | 3 |  |
| 4002-485 | Fundamentals of DBMS Architecture and Implementation | 4 | ISTE-436 | Data Management and Access | 3 |  |
| 4002-489 | Data Warehousing | 4 | ISTE-432  OR  ISTE-434 | Database Application Development  OR Data Warehousing | 3 |  |

Policy Name: **D1.1 MINORS POLICY**

 1. Definition

A minor at RIT is a related set of academic courses consisting of no fewer than 15 semester credit hours leading to a formal designation on a student's baccalaureate transcript.

The purpose of the minor is both to broaden a student's college education and deepen it in an area outside the student’s major program. A minor may be related to and complement a student’s major, or it may be in a completely different academic/professional area.   It is the responsibility of the academic unit proposing a minor and the unit’s curriculum committee to indicate any home programs for which the minor is not a broadening experience.

In most cases, minors shall consist of a minimum of two upper division courses to provide reasonable breadth and depth within the minor.

2. Institutional parameters

1. Minors may be discipline-based or interdisciplinary;
2. Only matriculated students may enroll in a minor;
3. At least nine semester credit hours of the minor must consist of courses not required by the student's home program;
4. Students may pursue multiple minors.  A minimum of nine semester credit hours must be designated towards each minor; these courses may not be counted towards other minors;
5. The residency requirement for a minor is a minimum of nine semester credit hours consisting of RIT courses (excluding "X" graded courses);
6. Posting of the minor on the student's academic transcript requires a minimum GPA of 2.0 in each of the minor courses;
7. Minors may not be added to the student's academic record after the granting of the bachelor's degree.

3. Development/approval/administration processes

* 1. Minors may be developed by faculty at the departmental, inter-departmental, college, or inter-college level. As part of the minor development process:
     1. students ineligible for the proposed minor will be identified;
     2. prerequisites, if any, will be identified;
  2. Minor proposals must be approved by the appropriate academic unit(s) curriculum committee, and college curriculum committee(s), before being sent to the Inter-College Curriculum Committee (ICC) for final consideration and approval.
  3. The academic unit offering the minor (in the case of interdisciplinary minors, the designated college/department) is responsible for the following:
     1. enrolling students in the minor (as space permits);
     2. monitoring students progress toward completion of the minor;
     3. authorizing the recording of the minor's completion on student's academic records;
     4. granting of transfer credit, credit by exam, credit by experience, course substitutions, and advanced placement;
     5. responding to student requests for removal from the minor.
  4. As per New York State requirements, courses within the minor must be offered with sufficient frequency to allow students to complete the minor within the same time frame allowed for the completion of the baccalaureate degree.

4. Procedures for Minor revision

It is the duty of the college curriculum committee(s) involved with a minor to maintain the program’s structure and coherence.  Once a minor is approved by the ICC, changes to the minor that do not have a significant effect on its focus may be completed with the approval of the involved academic unit(s) and the college curriculum committee(s).  Significant changes in the focus of the minor must be approved by the appropriate academic unit(s) curriculum committee(s), the college curriculum committee(s) and be resubmitted to the ICC for final consideration and approval.