

Job Description

Job Title:	Information Systems Specialist
Department:	Centre for Extended Learning
Reports To:	Associate Director, Systems
Jobs Reporting:	N/A
Salary Grade:	USG 8-11
Effective Date:	November 2019

Primary Purpose

The Systems team at the Centre for Extended Learning (CEL), designs, develops, tests, implements, supports and maintains web-based enterprise business systems driving online learning at the University of Waterloo. These are functionally and technically complex systems which integrate with University-wide ERP systems such as the student information system (SIS) and the LMS. This complexity encompasses all aspects of the technical infrastructure supporting these applications' life cycles including network and operating systems layer, database layer, programming languages, delivery methods, as well as implementation and support methodologies. The Information Systems Specialist is directly involved throughout the full systems development lifecycle (SDLC) of these applications. This position also contributes and/or provides leadership to other projects and working groups within CEL and campus-wide.

Key Accountabilities

Application Design, Development and Support

- Design, develop, test, implement, support and maintain web-based enterprise business systems executing full systems development lifecycle (SDLC) activities.
- Plan and design strategic technical architectures including database architectures (ERD) and system logic incorporating industry standard security approaches.
- Conduct programming, testing, system integration, UX development, system customization and/or complete application development.
- Create and maintain system documentation.
- Systems support in terms of problem analysis and solution development.
- Provide technical guidance and support for development activities.
- Setup and maintain appropriate applications and database infrastructure for development and production work.
- Coordinate of technical components within various projects.
- Evaluate and select suitable programming languages, database systems tools, methodologies, etc.
- Monitor technical directions and strategies for existing applications, databases and tools.
- Evaluate vendors and assess third-party software tools, applications, processes and best-practices for implementation.
- Conduct database administration including installation, tuning, performance monitoring, and upgrading as needed in collaboration with the Systems Administrator.
- Support existing office technologies such as office information systems (SharePoint, MS Teams) and corporate website as needed.

Project Leadership & Management

- Participate in business analysis at the department and/or University level in collaboration with the Business Analyst or independently as needed.

Job Description



- Conduct project planning, progress tracking and communication.
- Assign tasks and supervise work of technical and functional staff dedicated to the project.
- Provide mentoring support for junior staff (technically as well as functional knowledge specific to the assignment).
- Adhere to industry best practices for documentation management.
- Perform ongoing analysis of existing technology processes and practices for improvement.
- Manage time effectively when dealing with multiple projects and activities.
- Provide leadership to interdepartmental (IST, ITMS, Centre for Teaching Excellence (CTE)) or University-wide projects.

Problem Solving

- Provide Tier 3 support in diagnosing and resolving problems related to CEL systems.
- Coordinate and collaborate with IST and ITMS to track and resolve Tier 3 support tickets initiated by CEL staff.
- Interact with the SIS support staff resolve SIS issues as needed.
- Communicate technological best practices, IST communications, relevant events and software/vendor notices to CEL staff.
- Provide technical advice for course design and course technologies where appropriate.

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- An undergraduate degree in computer science, information systems, software engineering or related discipline; or
- A post-secondary diploma in computer science, information systems, software engineering or related discipline combined with relevant industry certifications and 5 years of relevant experience in industry or academic institutions.

Experience

- 2-5 years of industry experience in design, development, testing, implementation, support and maintenance of web-based enterprise business systems.
- A minimum of 2 years' experience in web-application development using PHP or VB/C#/ASP.Net.
- A minimum of 2 years' experience in web-application development integrating MSSQL Server or MySQL/Postgres databases.
- Should be conversant with new and emerging educational technologies including learning/content management systems (LMS/CMS), online collaboration software, various hardware formats and multimedia technologies in general.

Knowledge/Skills/Abilities

- Knowledge and proven skills in database-driven dynamic web application development is mandatory:
 - Linux/Windows, Apache, MySQL and PHP (LAMP/WAMP) architectures for development and deployment of web-based systems and platforms; and/or
 - Microsoft .NET technologies (C#, VB, ASP) combined with expertise in MSSQL Server architectures for development and deployment of web-based systems and platforms.

- Skills in frontend design principles, especially for web applications, such as HTML, JavaScript, PHP, CSS etc. is required.
- Understanding of industry standard authentication and security protocols is required.
- Understanding of version control using Git or similar system is required.
- Working knowledge of Jira and Confluence is desirable.
- Working knowledge in Java, Python, Ruby is desirable.
- Proven skills in payment gateway integration and ecommerce is advantageous.
- Excellent communication skills are required. This includes the ability to explain technical concepts to non-technical stakeholders.

Nature and Scope

- **Contacts:** CEL's professional development team, systems team, IST, ITMS, CTE, SIS support staff.
- **Level of Responsibility:** Design, develop, test, implement, support and maintain web-based enterprise business systems executing full systems development lifecycle (SDLC) activities adhering to industry/CEL standards and best practices. Must be able to work independently with minimum supervision while collaborating effectively in a team environment.
- **Decision-Making Authority:** Makes independent decisions on the best design, development and implementation strategies guided by the systems requirements, CEL guidelines and industry best practices. Recommend new and promising technologies, frameworks, processes and practices which will increase the efficiency of the SDLC while delivering superior products and services to the stakeholders. Upon learning of new IT initiatives or changes to existing IT environments, make decisions as to which stakeholders need to be informed, and when. Create and maintain documentation.
- **Physical and Sensory Demands:** Much of the time is spent sitting in a comfortable position with frequent opportunity to move about. Located in a comfortable indoor area. There is a frequent need to give close attention to various stimuli such as written material and information given verbally by co-workers and stakeholders.
- **Working Environment:** The work is varied. There are deadline pressures, while at the same time there is a demand for thoroughness and accuracy. As we work in a production environment that thousands of users depend on hourly, occasional "crisis" events might require being on call, working outside normal working hours and/or weekends.