Proposed Initiative:
The University of Wisconsin-River Falls will initiate a Master of Science in Computer Science to address and support the changing needs of computer science graduates and the business community. Program emphasis is aligned with market demand, including areas such as: machine learning, mobile and cloud computing.

Proposed by:
College of Business and Economics, Glenn Potts

What strategic goal does this initiative support?
Innovation and Partnerships

Describe how the initiative supports the goal(s).
The technology industry is experiencing a growing shortage of graduates in Computer Science, especially at the graduate level. Technology is one of the fastest growing fields worldwide with the result of an increasing shortage of highly trained professionals. The "Yale Daily News" reports that applications for their MS in Computer Science grew 45% from 2011 to 2012. "Info World" reports a 72% increase in job openings in the computer science field from January 2010 to October 2011. These and other indicators make the case for a high and growing demand for Computer Science professionals with an advanced degree. A new MS in Computer Science will allow UWRF to meet this urgent need of the business community and the computer science profession. This will significantly enhance the reputation of UWRF as an important partner in the St. Croix Valley and enhance the revenue stream for UWRF.

Based on the definition of university-wide initiative, indicate how the proposed initiative has a university-wide impact.
The 2009-2010 Computer Research Association “Taulbee Survey” indicates that 71% of the new STEM jobs will be in computing. “Computer World” January 2012, reports that Mobile and Cloud computing will lead to new job titles in 2012 and greater demand for Computing Professionals. With the growing importance of information technology and the rapid changes taking place in information technology, the existing staff in IT quickly becomes unable to lead development, without significant upgrading of knowledge and ability. These market realities will result in robust enrollment in an MS in Computer Science and bring tremendous goodwill to UWRF. The program can meet 100% of its cost, including salary, fringes, administrative and all operating cost, and significant overhead payments with 30-35 students being admitted per year. The program will have a large percentage of the program as online coursework, perhaps 100%, and as a result it will appeal to a large audience.
Please provide a set of benchmarks and/or indicators of success to support your initiative. The MS Computer Science will establish a professional advisory board drawn from high level experts in the industry. This Board will provide continuing input into the program content and delivery. The program will be designed, marketed and fully enrolled within one year of approval of the concept. We will recruit 30-35 students per year and have approximately 50-60 students participating in the program at any point in time after two years. As a service based pricing program, 100% of all costs will be fully paid by program revenue, including 18% of gross revenue paid as overhead to the University and some amount of net revenue paid to the college and department. Within two years, students will begin to graduate and the program will produce approximately 25 graduates per year within four years.

What elements are involved in the initiative?
Sustainability, Inclusiveness, Human Capital, Technology, Finance

Indicate how each element would be/would not be affected by the initiative.

- **Sustainability**: As a service based pricing program meeting 100% of program cost, the MS in Computer Science is sustainable regardless of the state budget circumstances. The key to any industry producing and operating in an environmentally sustainable and efficient manner is the intensive use of computing resources. This degree will train students to help their employers use energy efficiently, schedule work efficiently, and control transportation in a cost saving and time efficient manner. It is the key element in the establishment of sustainable business practices.

- **Inclusiveness**: The Computer Science department at UWRF, the CS industry worldwide, and the professionals working in the industry are among the most diverse in any part of our economy. Computer Science has an underlining culture of inclusiveness that results in full partnership and participation of all people, regardless of sex, ethnicity, race, physical ability or other indicators of difference.

- **Human Capital**: The human capital of students in the program will be significantly enhanced as they acquire skills and ability that brings to the frontier of knowledge in the industry. To provide this program, the computer science faculty will need to develop and deliver approximately ten new courses. At least ten sections of courses must be offered each year. This is 1.67 graduate FTE beyond the current staffing in the department. The MS is Computer Science requires at least one new position and adjuncts to offer it along with the existing undergraduate program. Long term sustainability of the program requires two new positions for Computer Science since the undergraduate program is growing as well. As a service based pricing program, revenue is generated to cover the financial impact of the new faculty on the University. There is however, a transition period for just over one year when revenue generated will not cover full cost.

- **Technology**: This degree program will help develop technology abilities and applications that will make important differences for the students and their employers. The businesses will recognize the immediate important impact that is due to the program at UWRF and as result greatly enhance the reputation of UWRF as meeting the needs of the region. No new technology is required for the delivery of the program beyond the regular replacement of computing resources and updates of IT capability.
• **Facilities:** No new facilities are required. The program will be delivered either mostly or entirely online.

• **Finance:** This program will be a service based pricing program and will cover all costs within its second year of operation. The cost recovery will include the 18% of gross revenue for the University overhead as well as significant overhead for the college and department. The cost recovery includes 100% of salary and fringes for faculty teaching in the program as well as any administrative salary and fringes. The program does require an increase in staff that will need to be provided before the full cost recovery takes place in year two of the programs operation.

• **Other:**