1. Briefly describe the proposed new program. Please indicate if it is an expansion of an existing program, a new program; cooperative effort with another institution, business or industry; or an on-campus or off-campus program. Attach any formal agreements established for cooperative efforts.

The specific objective to be achieved by changing the professional electives concentrations to options is to provide transcripted documentation of the course of study. Computer Science and Software Engineering require the electives to be concentrated into one of five areas: Business Applications, Electronic Control Systems; Engineering Applications; Statistical Applications; or Technical Communications. This focuses the students area of study and provides a concentration outside of computer science that better prepares them for professional practice of computer science in that area of industry.

2. Summarize a needs assessment conducted to justify the proposal. Please include how the assessment plan was developed or executed and the data derived from this effort.

The students are required to pursue one of five professional concentrations. For the professional concentration to appear on the transcript, they need to be approved as options under the degree.

3. Explain how the program relates to the Role and Scope of the institution as established by the Board of Regents.

Montana Tech of The University of Montana's mission statement includes the following statement: "It promotes science literacy, generally, specifically encourages careers in engineering and science, and offers an expanding array of external studies and outreach programs".

4. Please state what effect, if any, the proposed program will have on the administrative structure of the institution. Also indicate the potential involvement of other departments, divisions, colleges, or schools.

No impact on the administrative structure will take place. The courses currently required in the professional concentration are offered outside of computer science/software engineering on a regular and predictive basis.

5. Describe the extent to which similar programs are offered in Montana, the Pacific Northwest, and the states bordering Montana. How similar are these programs to the one proposed?

Computer Science is offered at MSU and UM. Montana Tech is the only institution in Montana to offer a B.S. in Software Engineering.

6. Please name any accrediting agency(ies) or learned society(ies) that would be concerned with the particular program herein proposed. How has this program been developed in accordance with criteria developed by said accrediting body(ies) or learned society(ies)?

This program underwent a review by ABET in fall 2003. The curriculum is not being modified from the last review. The change from professional concentration to options was approved by the Montana Tech Curriculum Review Committee on October 10, 2005 and subsequently approved by the faculty on December 7, 2005.

Prepare an outline of the curriculum showing course titles and credits. Please include any plans for expansion of the program during its first three years

PROPOSED COMPUTER SCIENCE and SOFTWARE ENGINEERING DEGREE OPTIONS

Junior and Senior Years

12 Credits for Each Option

Business Applications

				Fall	Spring
	Junior Year				
	BUS	2146	Accounting I	3	
	BUS	2156	Accounting II		3
	Senior Year				
*	BUS	3416	Business Law I	3	
*	BUS	3616	Management	3	
*	BUS	3316	Marketing		3
*	BUS	3516	Business Finance		3

* *select 2 courses out of 4*

Electronic Control Systems

				Fall	Spring
	Junior Year				
	Phys.	3036	Electronics (prereq Phys. 2086 and 2106)	3	
	Engr.	2530	Intro to Electric Circuits (coreq Phys 2086)		3
*	Engr.	2550	Electric Circuits Lab (coreq Engr 2530 & Phys 2106)		1
	Senior Year				
*	Engr.	3270	Digital Circuit Design (prereq Phys. 3036)		3
*	Engr.	3500	Introduction to Signals, & Systems (prereq Engr 2530)	3	
*	Engr.	3560	Electric Circuits II (prereq Engr 3500)		3
*	Engr.	3570	Electronic Design (prereq Phys 3036 & Engr 3500)		3
*	Engr.	4410	Control System Theory and Design (prereq Engr 3500)	3	
*	Engr.	4450	Process Instrumentation and Control (prereq Engr 2530)	3	
*	Engr.	4460	Process Instrumentation and Control Lab (prereq Engr 2530)	1	
*	Phys.	4806	Intro to Microprocessors (prereq Phys. 3036)		3

** select 2 or more courses to reach a minimum of 12 elective credits within the option.*

Engineering Applications

				Fall	Spring
	Junior Year				
	Engr.	2050	Statics (prereq Phys. 1046)	3	
	Engr.	2150	Engineering Computer Graphics		3
	Senior Year				
	Engr.	3350	Mechanics of Materials	3	

	Engr.	3150	Introductory Engineering Computer Applications	3

Statistical Applications

				Fall	Spring
	Junior/Senior Year				
*	MATH	4316	Experimental Design (prerequisite Math 3316)	3	
*	MATH	4326	Regression and Model Building (prerequisite Math 3316)		3
	Junior/Senior Year				
	MATH	4336	Probability Theory (prerequisite Math 3316)	3	
*	MATH	4346	Statistical Theory (prerequisite Math 4336)		3

** select 3 courses out of 4*

Technical Communication

				Fall	Spring
	Junior Year				
	PTC	3406	New Media Design I	3	
+*	PTC	3216W	Scientific & Technical Writing		3
+*	PTC	3896W	Business & Professional Writing		3
	Senior Year				
+*	PTC	3256W	Scientific Report Writing	3	
*	PTC	4406	New Media Design II	3	
*	PTC	4056	Technical Editing		3
*	PTC	4126	Advanced Writing		3
*	PTC	4426	History, Technology, & Communication		3

\+ *only one of these courses may be used to satisfy the required GER 300-level writing course*

* *select 3 courses out of 7*

FACULTY AND STAFF REQUIREMENTS

1. Please indicate, by name and rank, current faculty who will be involved with the program proposed herein.

Dr.Celia Schahczenski, Professor and Head of Computer Science
Dr. Louis Glassy, Assistant Professor of Computer Science
Dr. Michael Grinder, Associate Professor of Computer Science
Mr. Gary Mannix, Associate Professor of Computer Science

2. Please project the need for new faculty over the first five years of the program. Include special qualifications or training. If present faculty are to conduct the new program, please explain how they will be relieved from present duties.

No new faculty will be needed to support these options. The courses are offered by other programs on campus and are integral to their associated curriculum.

3. Please explain the need and cost for support personnel or other required personnel expenditures.

The degrees are currently being offered with the proposed options as professional concentrations. No new costs will be associated with personnel support or otherwise.

4. Please indicate special clinical, laboratory, and/or computer equipment that will be needed. List those pieces of equipment or computer hardware presently available in the department.

The current classroom and facilities are adequate.

5. Please describe facilities and space required for the proposed program. Are current facilities adequate for the program? If not, how does the institution propose to provide new facilities?

The existing space in Museum Building is adequate to house the options.