2004-2006 Semester Catalog

Revised 07/02/2004

Name _____   Advisor _____

- This worksheet is intended for students who begin their studies at MSU between Fall Semester 2004 and Summer Semester 2005. If you have taken courses at MSU prior to this time, you should use the 2002-2004 graduation worksheet.

- Keep this worksheet up to date and bring it with you each time you meet with your advisor. It will help your advisor give you better advice when you register for classes.

- Substitute courses are sometimes allowed. Normally, the substitute course column is to be used for courses transferred in from another university. However, sometimes one MSU course can be substituted for another. See your advisor for specific questions. In either case, enter the substituted courses in the substitution column and enter the credits in the blank credits column. *Your advisor must initial each approved substitution.* Do not assume that a substitution will be allowed.

- You may not use pass/fail courses except in the *unrestricted electives* section.

- Read your cs.montana.edu e-mail account and the **Announcements** section of http://cs.montana.edu/forum on a daily basis. We will communicate important information to you via these two mechanisms on an as needed basis.

- From time to time, this form will be revised. The revision date appears at the top of this page. The computer science office will always have copies of the latest worksheet.

- If you would like to see a typical semester-by-semester schedule of classes for a computer science major, please consult the 2004-2006 Undergraduate Bulletin or check out www.montana.edu/wwwcat/programs/cs.html.

- This is a complex form and is sure to contain a few errors. If you notice any, please notify John Paxton (Paxton@cs.montana.edu).

1. Required Computer Science Courses

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE	ADVISOR'S INITIALS
CS 160	Introduction to Comp. Science	4				
CS 201	Program Design With C	3				
CS 221	Data Structures	4				
CS 222	Discrete Mathematics	3				
CS 223	Advanced Data Structures	4				
CS 324	Programming Techniques	3				
CS 330	Computer Organization	4				
CS 350	Theory of Computation	3				
CS 351	Software Engineering	3				
CS 352	Software Eng. Project	2				
CS 355	Programming Paradigms	4				
CS 418	Operating Systems	3				
CS 440	Computer Networks	4				
CS 450C	Compilers	4				
CS 474	Undergraduate Consultation	1				

Total Credits: _____

2. Computer Science Elective Courses

- You must take six credits of the courses below.

- If you take more than six credits of these courses, you may use the additional courses (or credits) in the next section.

- Seniors may petition to use CS graduate courses in this section.

- CS 460 and CS 461 may only be used here if they are both taken.

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE	ADVISOR'S INITIALS
CS 422	Introduction to Simulation	3				
CS 425	Computer Graphics	4				
CS 430	Image Processing	3				
CS 432	Computational Biology	2				
CS 435	Database Systems	3				
CS 436	Artificial Intelligence	3				
CS 445	Embedded Systems	3				
CS 460R	Senior Design I	3				
CS 461R	Senior Design II	3				

Total Credits: _____

3. Computer Science and Related Elective Courses

- You must take six elective credits in computer science or in related courses. Either three of these credits must be from non-CS courses or you must have three credits of non-CS courses listed in the *Unrestricted Electives* section.

- Any computer science course not already counted in the first three sections may be used here. However, you may not use CS 150 **unless** it was taken before you took CS 160.

- Courses may also be used from the following list. This list is meant to be suggestive. Speak with your advisor if there is a course related to computer science that is not on the list and that you wish to take. Possible Courses: EE 261 (Introduction to Logic Circuits), EE 262 (Logic Circuits Lab), EE 367 (Logic Design), EE 371 (Microprocessor Hardware and Software System), EE 414 (Introduction to VLSI Design), EE 465 (Real Time Microcontroller Applications), EE 466 (Computer Architecture and System Organization), EE 467 (Advanced Embedded Systems Lab), EE 475 (Hardware and Software Engineering for Embedded Systems), Math 394 (Software for Mathematical Computation), Math 441 (Numerical Linear Algebra), Math 442 (Numerical Solution of Differential Equations), Phil 231 (Introduction to Logic), Stat 420 (Probability).

COURSE	TITLE……….	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE	ADVISOR'S INITIALS

Total Credits: _____

4. Required Non-Computer Science Courses

- You may substitute either I&ME 354 or six credits of Statistics courses for I&ME 350.
- You may substitute Math 224Q and Math 225 for both I&ME 350 and Math 221. (This is an all or nothing substitution.)
- You must take a total of 14 credits of science courses. Eight of these credits come from PHYS 211 and PHYS 212. Note: you may *not* count PHYS 103, PHYS 205, or PHYS 206 at all. The other six credits should have IN designation.

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE	ADVISOR'S INITIALS
Phys 211	General/Modern Physics I	4				
Phys 212	General/Modern Physics II	4				
IN		3				
IN		3				
ENGL 223	Technical Writing	3				
MATH 181Q	Calculus I	4				
MATH 182Q	Calculus II	4				
Math 221	Matrix Theory	3				
I&ME 350	Data Analysis	2				

Total Credits: _____

5. Core 2.0/Computer Science Accreditation Core

- Students must receive a C- or better to fulfill each of the Core 2.0 requirements.
- Either MATH 181M or MATH 181Q will satisfy the Q requirement, provided that you received a C- or better in one of these two courses.
- PHYS 211 and PHYS 212 will satisfy both the IN and the CS requirements, provided that you received a C- or better in each of these two courses.
- You may satisfy the R course by taking an RA, RH, RS, or R course that appears somewhere else on this form. If you have done that, list the course again in this section but change the credits in the R section below to 0.
- To meet computer science accreditation requirements, you must list 24 credits on this page that come from a department that offers an IA, RA, IH, RH, IS, RD or D course. The Core 2.0 required US, W, IA, IH, IS, and D courses will give you 18 of these credits. If you took a separate RA, RH or RS course, you will have 21 of these credits. Thus, you will need to take either an additional 3 or 6 credits from a department that offers an IA, RA, IH, RH, IS, RS or D course. List these credits in the "Accreditation Core" category below. These credits do not themselves need to be core designated.

COURSES	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE	ADVISOR'S INITIALS
US		3				
ENGL 121 W	College Writing	3				
IA		3				
IH		3				
IS		3				
D		3				
R		3				
Accreditation Core		3				
Accreditation Core		3				

Total Credits: _____

6. Unrestricted Electives

- You might need to take additional credits of elective courses to bring your credit total to 120. Add up the credit totals in the other sections and subtract from 120 to determine exactly how many unrestricted elective credits you need.

- Any university course may be used in this section if it has not been used in another section on this worksheet.

- You must accumulate at least 42 credits in courses numbered 300 or above. If you have taken courses at this level that are not listed in any other section on this worksheet, and if you need to count these courses in order to meet the 42 credit requirement, list them here.

COURSE	TITLE……….	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE	ADVISOR'S INITIALS

Total Credits: _____

7. Checklist for Graduation

_____ Total number of credits. Must be at least 120.

_____ Total number of 300+ level credits. Must be at least 42.

Yes or No   All completed Core 2.0 categories are satisfied with at least one course where the grade is C- or higher.

Yes or No   CS 270 credits are 6 or fewer.

Yes or No   CS 470 credits are 6 or fewer.

Yes or No   CS 280 and CS 480 credits counted are 12 or fewer.

Yes or No   Either both or neither of CS 460 and CS 461 have been counted.

Yes or No   Advisor's initials appear on all courses listed in substitution columns.

Yes or No   Advisor's signature appears below.

_____   _____
Advisor   Date

_____   _____
Certification Officer   Date

_____   _____
Assistant/Associate Dean   Date

8. Graduation Application Instructions
Congratulations – you are almost finished!

Applications for the baccalaureate degree are due at the end of the semester one year prior to when you plan to graduate. For example, if you intend to graduate after Spring Semester, 2008, you would need to apply for graduation at the end of Spring Semester, 2007.

1. Print out a copy of your current, unofficial transcript.

2. Fill everything out with clear handwriting.

3. Obtain the blue *Application for Baccalaureate Degree* from the CS office.

4. Fill out this *Computer Science Graduation Worksheet* with all courses you have completed using non-red ink.

5. Fill out this *worksheet* with all courses that you are currently taking or that you plan to take with red ink.

6. Fill out the entire rest of this *worksheet* using non-red ink. Double check to see that you are meeting all of the requirements!

7. Fill out the *Application for Baccalaureate Degree* form using non-red ink. Fill out completely the <u>Please Print in Ink or Type</u> section, the <u>Departmental and College Requirements</u> section and the <u>To Be Completed By The Student</u> section on the back.

8. Take your transcript, your completely filled out *Application for Baccalaureate Degree*, and this completely filled out *Computer Science Graduation Worksheet* to your advisor.

9. Your advisor will check that everything is filled out properly (grades, credit tallies, etc.). Once the forms are checked, the advisor will sign in the appropriate places and then keep the forms to pass on to the CS secretary.