# $\begin{array}{c} {\rm Interdisciplinary\ Option} \\ {\rm Computer\ Science\ Graduation\ Worksheet} \\ {\rm 2016-2017\ Catalog} \end{array}$

Revised 6/1/2016

Name	Advisor
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- This worksheet goes into effect at the beginning of **Fall Semester**, **2016**.
- It is recommended that you utilize this worksheet in combination with your DegreeWorks 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 course in the *Substitution Course* column and enter the credits in the *Substitute Credits* column. *Your advisor must approve substitutions*. Do not assume that a substitution will be allowed.
- You may not use pass/fail courses except in the *unrestricted electives* section.
- All course grades must be at least a C- to count towards your degree.
- If you would like to see a typical semester-by-semester schedule of classes for a Computer Science major, please 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 Hunter Lloyd (hunter.lloyd@montana.edu) or Sharlyn Gunderson-Izurieta (Sharlyn.Izurieta@montana.edu).

## **1. Required Computer Science Courses**

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE
CSCI 111	Programming with Java	4			
CSCI 112	Programming with C	3			
CSCI 132	Basic Data Structures and Algorithms	4			
CSCI 215CS	Social and Ethical Issues in CS	3			
CSCI 232	Data Structures and Algorithms	4			
CSCI 305	Concepts of Progr. Languages	3			
EGEN 310R	Engineering Design	3			
ESOF 322	Software Engineering	3			
CS 338	Computer Science Theory	3			
CSCI 361	Computer Architecture	3			
CSCI 481	Program Assessment	0			
CSCI 482R	Interdisciplinary Project Instruction	1			
CSCI 483R	Interdisciplinary Project	3			

Total Credits:	<del></del>
300+ Level Credits	

## 2. Computer Science Elective Courses

- You must take 19 credits from the courses below.
- There are some special courses, such as CSCI 491 that can also be used here.
- Seniors may petition to use CS graduate courses in this section.
- Non-lecture courses such as CSCI 498, Internship, and CSCI 492, Independent Study, MAY NOT be used on this page.

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE
CSCI 351	Systems Administration	3			
ESOF 422	Adv. Software Engineering	3			
CSCI 432	Adv. Algorithm Topics	3			
CSCI 440	Database Systems	3			
CSCI 441	Computer Graphics	3			
CSCI 442	Robot Vision	3			
CSCI 446	Artificial Intelligence	3			
CSCI 447	Soft Computing	3			
CSCI 451	Computational Biology	3			
CSCI 455	Robotics	3			
CSCI 460	Operating Systems	3			
CSCI 466	Networks	3			
CSCI 468	Compilers	4			
CSCI 476	Computer Security	3			
CSCI 477	Simulation	3			
CSCI 495	Student Teaching	1			

Total Credits:	
300+ Level Credits	

## 3. Minor in Field of Choice

- Complete a minor or additional major in a field outside of Computer Science.
- This section must contain at least 12 credits of coursework that is not listed elsewhere on this worksheet.
- Please meet with your Minor degree advisor regarding course requirements.

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE

Total Credits:	
300+ Level Credits	

## 4. Math and Science Required Courses

- You must list a total of 30 credits of Math and Science courses in section 4 and section 5 of this worksheet.
- In the following table, M 221 and the statistics elective can be replaced by M 273 and M 274. This is an all or nothing substitution.
- In the following table, the statistics elective can be satisfied by any probability or statistics course, such as EIND 354, that is at least a 200 level course.

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE
CSCI 246	Discrete Structures	3			
M 171	Calculus I	4			
M 172	Calculus II	4			
M 221	Intro to Linear Algebra	3			
	Statistics Elective	3			

Take two courses from the list below. At least one course must have an accompanying 1+ credit lab.

BIOB 105CS, BIOB 110CS, BIOB 160, BIOB 170IN, BIOB 260, BIOH 201, BIOH 211, BIOM 250, BIOO 220, CHMY 123, CHMY 141, CHMY 143, CHMY 151, CHMY 153, CHMY 211, ENSC 245IN, GEO 103CS, GEO 211, NRSM 240, PHSX 220, PHSX 222, PHSX 224, PHSX 240, PHSX 242

COURS	E TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE

## **5. Math and Science Elective Courses**

- You must take enough elective credits in Science and Math to get your total credits in section 4 and section 5 to be 30 or greater.
- All math courses listed here must be 200 level or greater
- Stat courses may also be used in this section, if they were not counted in section 4.
- Any science course except the following may be used: PHSX 103IN, PHSX 205, PHSX 207 and CHMY 121IN

COURSE	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE

Total Credits Section 4 and Section 5 combined _	
300+ Level Credits Section 4 and 5 combined	

## **6. Core 2.0/Computer Science Accreditation Core**

COURSES	TITLE	CREDITS	SUBSTITUTE COURSE	SUBSTITUTE CREDITS	GRADE
US		3			
WRIT 101 W	College Writing I	3			
WRIT 221	Intermediate Tech Writing	3			
IA or RA		3			
IH or RH		3			
IS or RS		3			
D		3			

Total Credits:	
300+ Level Credits	

## 7. 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

Total Credits:	
300± Level Cred	ite

#### 8. 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 course grades are at least a C

## 9. Graduation Application Instructions

Congratulations – you are almost finished!

#### **Graduation Applications must be submitted by the following dates:**

October 1<sup>st</sup>, 2016 for Spring Graduation 2017. March 1<sup>st</sup>, 2017 for Summer or Fall Graduation 2017.

- 1. Schedule an appointment with your department advisor. Please plan ahead to ensure completion of materials before the graduation application deadline. Before you meet with your advisor:
  - Create a "Graduation Plan" for your final semester in DegreeWorks (use this worksheet to cross-check that you have met all the requirements).
  - Bring a completed Application for Baccalaureate Degree, <a href="http://www.montana.edu/registrar/pdfs/bac\_app.pdf">http://www.montana.edu/registrar/pdfs/bac\_app.pdf</a>. The application is also available in the CS Department's main office.
- 2. After your graduation plan is correct, your advisor will lock your DegreeWorks Graduation Plan and take your signed application to the CS Office where it will be given to Hunter Lloyd, our certifying officer.
- 3. The certifying officer will conduct an audit to ensure that your course requirements have been completed. Once the forms are audited, the Certifying Officer will provide the forms to the CS Department Administrative Assistant and the Registrar's Office.
- 4. The Registrar's Office will conduct a final audit during your final semester.