

# WINONA STATE UNIVERSITY NOTIFICATIONS

Department Computer Science

Date 2/27/14

If the proposed curricular change involves existing courses and is considered a Notification, complete and submit this form. Refer to Regulation 3-4, *Policy for Changing the Curriculum*, for complete information on submitting proposals for curricular changes.

Please check type of change(s):

- Reduction in course number     Change in grading option     Change in hours or credits in an independent study course  
 Change in course title     Change in course description\*     Change in existing major, minor, option, concentration, etc.\*  
 Change in prerequisites     Change in course number within level, e.g. 310 to 350     Change in delivery method

**A. Current Course Information**

Course No. \_\_\_\_\_ Course Title \_\_\_\_\_ Credits \_\_\_\_\_

This proposal is for a(n) \_\_\_\_\_ Undergraduate Course \_\_\_\_\_ Graduate Course

Applies to \_\_\_\_\_ Major \_\_\_\_\_ Minor  
 Required  Required  
 Elective  Elective

Prerequisites \_\_\_\_\_

Grading \_\_\_\_\_ Grade only \_\_\_\_\_ P/NC only \_\_\_\_\_ Grade and P/NC Option

Frequency of offering \_\_\_\_\_

**Proposed Course Information.** (Please indicate only proposed changes below.)

Course No. \_\_\_\_\_ Course Title \_\_\_\_\_ Credits \_\_\_\_\_

Prerequisites \_\_\_\_\_

Grading \_\_\_\_\_ Grade only \_\_\_\_\_ P/NC only \_\_\_\_\_ Grade and P/NC Option

Frequency of offering \_\_\_\_\_

Effective date (normally the next semester) \_\_\_\_\_

B. \*If the proposal requests a change in the course description, please attach a description of the change requested and list both the current and proposed course description. If the proposal requests a change in an existing major, minor, option, concentration, etc., please attach a description of the change(s) requested and list both the current and proposed program listings.

Approved by the Department Ndebrath 2/28/14  
 Department Chair Date

Ndebrath@winona.edu  
 e-mail address

Notification to the College Dean  Yes  No  
Charla Smutsch 3/17/14  
 Dean of College Date

Presented at A2C2 meeting on 4/9/2014 [Signature]  
 Date Chair of A2C2

Presented at Graduate Council meeting on (if applicable) \_\_\_\_\_  
 Date Chair of Graduate Council

Submitted to Registrar on 4/18/2014  
 Date Registrar: Please notify department chair via e-mail that Notification has been recorded.

\*If a dean has comments on a notification, the dean shall forward the comments to the department. [Revised 7-13-11]

53/18/2014

CS Curriculum Fall 2014 (2015-3)  
Revised

CS Curriculum 2011  
Old Version

CS Core (38 SH):

**CS 101 – Exploring Creative Computing (3)**

- CS 234 – Algorithms and Problem Solving I (4)
- CS 250 – Algorithms and Problem Solving II (4)
- CS 275 – Mathematical Foundations of Alg. (4)
- CS 313 – Networking and Telecommunications (3)
- CS 341 – Data Structures (4)
- CS 375 – Computer Systems (4)
- CS 385 – Applied Database Management Systems (3)
- CS 410 – Software Engineering (3)
- CS 471 – Object Oriented Design and Dev. (3)
- Stat 210 – Statistics (3)

In addition to the CS Core, every CS major must also complete one of the following options.

CS Option (31 SH):

- Math 212 – Calculus I (4)
- CS 405 – Operating Systems (3)
- CS 415 – Principles of Programming Languages (3)
- CS 435 – Theory of Computation (3)
- CS Electives (18)

ACS Option (30-31 SH):

- Math 140 – Applied Calculus (3)
- CS 344 – Web Programming (3)
- CS 444 – Human Computer Interaction (3)
- CS 485 – Advanced Database Systems (3)
- CS Elective (3)
- ACS Emphasis (15-16)

Bioinformatics Emphasis (16 SH):

- Biol 241 – Basics of Life (4)
- Biol 242 – Organismal Diversity (4)
- Biol 310 – Genetics (3)
- \*Chem 212 – Principles of Chemistry I (4)
- \*Chem 213 – Principles of Chemistry II (4)
- CS 368 – Introduction to Bioinformatics (4)

OR

CIS Emphasis (15 SH):

- Acct 211 – Fin. Acct. Principles (3)
- Acct 212 – Man. Acct. Principles (3)
- \*Econ 201 – Prin. Of Microecon. (3)
- \*Econ 202 – Prin. Of Macroecon (3)
- 300-Level course from College of Business (3)
- CS Electives (6)

CS Core (35 SH):

- CS 234 – Algorithms and Problem Solving I (4)
- CS 250 – Algorithms and Problem Solving II (4)
- CS 275 – Mathematical Foundations of Alg. (4)
- CS 313 – Networking and Telecommunications (3)
- CS 341 – Data Structures (4)
- CS 375 – Computer Systems (4)
- CS 385 – Applied Database Management Systems (3)
- CS 410 – Software Engineering (3)
- CS 471 – Object Oriented Design and Dev. (3)
- Stat 210 – Statistics (3)

In addition to the CS Core, every CS major must also complete one of the following options.

CS Option (34 SH):

- Math 212 – Calculus I (4)
- CS 405 – Operating Systems (3)
- CS 415 – Principles of Programming Languages (3)
- CS 435 – Theory of Computation (3)
- CS Electives (21)

ACS Option (33-34 SH):

- Math 140 – Applied Calculus (3)
- CS 344 – Web Programming (3)
- CS 444 – Human Computer Interaction (3)
- CS 485 – Advanced Database Systems (3)
- CS Elective (6)
- ACS Emphasis (15-16)

Bioinformatics Emphasis (16 SH):

- Biol 241 – Basics of Life (4)
- Biol 242 – Organismal Diversity (4)
- Biol 310 – Genetics (3)
- \*Chem 212 – Principles of Chemistry I (4)
- \*Chem 213 – Principles of Chemistry II (4)
- CS 368 – Introduction to Bioinformatics (4)

OR

CIS Emphasis (15 SH):

- Acct 211 – Fin. Acct. Principles (3)
- Acct 212 – Man. Acct. Principles (3)
- \*Econ 201 – Prin. Of Microecon. (3)
- \*Econ 202 – Prin. Of Macroecon (3)
- 300-Level course from College of Business (3)
- CS Electives (6)

OR

HCI Emphasis (15 SH):

- \*Psych 210 – Intro to Psych. Science (3)
- Psych 335 – Human Factors Psych. (3)
- Psych 369 – Cognitive Psychology (3)
- Psych 410 – Perception and Sensation (3)
- CS or Graphic Design Electives (6) –  
at most 3 SH from Graphic Design

\* 6-8 credits count as USP or GEP requirements  
and not counted as part of the major

OR

HCI Emphasis (15 SH):

- \*Psych 210 – Intro to Psych. Science (3)
- Psych 335 – Human Factors Psych. (3)
- Psych 369 – Cognitive Psychology (3)
- Psych 410 – Perception and Sensation (3)
- CS or Graphic Design Electives (6) –  
at most 3 SH from Graphic Design

\* 6-8 credits count as USP or GEP requirements  
and not counted as part of the major