

**Agreement between**

**Central South University (CSU), China**  
**School of Information Science and Engineering (SISE)**

**and**

**The University of Western Ontario (UWO), Canada**  
**Department of Computer Science (CSD), Faculty of Science**



**The University of Western Ontario (UWO)** is a Canadian University located in London, Ontario, Canada. UWO is a research based University offering teaching and research opportunities in a full range of areas including Law, Medicine, Business, Engineering, Science and the Arts.

**Central South University (CSU)** is a Chinese research based University located in Changsua, Hunan Province, People Republic of China. CSU offers teaching and research opportunities in a full range of areas including Engineering, Science, Medicine, Management, Literature, Law, Economics, Philosophy, Education and the Arts.

WHEREAS UWO and CSU (“the Universities”) wish to enter into an agreement whereby qualified CSU students may be accepted into Year 3 of the Honors Specialization Computer Science program at UWO and upon successful completion of the program, qualify for degrees at both UWO and CSU,

THEREFORE, the Universities agree as follows:

## 1. PURPOSE OF AGREEMENT

The purpose of this Agreement is:

- (a) to set out the requirements and procedures for admission of CSU students to Year 3 of the Honors Computer Science program at UWO;
- (b) to set out the courses that will be accepted for transfer credit at each institution;
- (c) to set out the progression and graduation requirements for CSU students enrolled at UWO; and
- (d) to describe the nature of the relationship between UWO and CSU and each Universities’ obligations in relation to the transfer credit agreement.

## 2. DEFINED TERMS

**Admission** means that the applicant has been considered under and meets the entrance requirements to UWO as outlined in this Agreement, as well as any additional requirements stipulated by the UWO Senate, and has been given an offer to be a student at UWO.

**Application** means the completion and submission of an electronic application and associated application fees through the Ontario Universities’ Application Centre. Applications are considered complete when relevant certified transcripts (with certified translations if required) and English language proficiency test results are received by the Undergraduate Admissions Office at UWO.

**Transfer Credit** means the acceptance of courses taken at one University for credit towards a degree at the other University.

**IELTS** means the International English Language Testing System.

**TOEFL** means the Test of English as a Foreign Language.

**UWO Course** means a course or courses conducted by UWO.

**Prospective Student** means a CSU Student who is interested in applying to UWO pursuant to the terms of this Agreement.

**Study Permit** means the appropriate category of permit issued by the Canadian Government for a set duration of full-time study at UWO.

**CSU Course(s)** means the course or courses conducted by CSU and set out in **Schedule 1**.

**CSU Student** means a person enrolled in full time study at CSU.

### **3. TRANSFER CREDIT**

UWO agrees that it will grant transfer credit for the first and second year CSU courses set out in Schedule 1 to CSU students who are admitted to the third year of the Computer Science program pursuant to this Agreement. Similarly, CSU agrees that it will grant transfer credit to CSU students who have successfully completed the third and fourth year UWO courses set out in Schedule 1.

### **4 APPLICATION AND ADMISSION**

(a) Prospective students must apply to UWO using the online Ontario Universities' Application Centre (OUAC) website with all required documentation received and recorded no later than March 15<sup>th</sup> to be considered for admission the following September.

(b) UWO will consider for admission to Year 3 of the Honors Specialization Computer Science program those applicants who have been proposed by CSU and who satisfy UWO's admission requirements as well as the course requirements and the academic performance and English language proficiency requirements set out herein. A maximum of 25 students may be admitted each year under this Agreement. The final decision as to who will be admitted and the number of students admitted each year is made solely by UWO. UWO is the final arbiter of a prospective student's application for enrolment and credit at UWO and a prospective student's English language skills;

(c) In order to be eligible to apply for admission to UWO, CSU students must have successfully completed the first and second year CSU courses set out in Schedule 1. CSU students who fail more than four (4) units that are recognised as part of the transfer credit arrangement will not be eligible for admission. CSU Students must have an overall average of 70% in all courses listed in Schedule 1. CSU students must also meet the English language proficiency requirements set out herein.

(d) CSU agrees to advise CSU students who are interested in applying to UWO pursuant to this Agreement that:

- they must satisfy all UWO admission requirements to be considered for admission
- they are responsible for obtaining a Study Permit
- they must have satisfactorily completed the CSU courses that are eligible for transfer credit
- satisfactory completion of the CSU courses and UWO admission requirements does not guarantee admission to UWO
- CSU is not an agent of UWO
- relevant information about studying at UWO and the Bachelor of Science program in Computer Science can be obtained through the UWO website
- there are no English as a Second Language (ESL) programs at UWO
- UWO will provide CSU with information pertaining to the student's academic performance and progression at UWO.

(e) CSU further acknowledges and agrees that:

- it will provide a full and complete copy of the prospective student's certified academic transcript to UWO at no cost to UWO
- it will provide prospective student unit results to UWO in the form of a percentage mark

- it must provide UWO with all mid year or final results and a statement of satisfactory completion of CSU's courses before a full offer of admission is made to a prospective student by UWO
- it will provide prospective students with the relevant program information relating to the UWO courses and will ensure that students who have applied to UWO are directed to the Canadian government website for information on obtaining study permits.

## **5. LANGUAGE REQUIREMENTS**

Prospective students must have:

- (a) A TOEFL Internet-based score of at least 83 with no score less than 20; or
- (b) An IELTS score of 6.5 with no part with a score of less than 6.0.

## **6. PROGRESSION REQUIREMENTS**

(a) CSU students studying at UWO will be required to study on a full-time basis and are subject to all rules and regulations applicable to UWO students, including academic progression requirements. The UWO undergraduate program will normally be completed in two years of full-time study.

(b) Students performing unsatisfactorily in the Honors Specialization Computer Science Program at UWO will be counselled to consider whether they wish to continue in the program or return to the SISE, CSU program (Schedule 1 specifies the transfer credits of successfully completed UWO Computer Science courses to SISE, CSU courses in this case). Students who fail to meet the normal requirements for academic progression in their courses at UWO will be subject to standard UWO academic progress procedures. Through its institutional contacts, UWO will inform CSU about a student who may need to return to CSU or study for an extra period at UWO.

(c) Students who return to SISE, CSU without completing the third and fourth year courses at UWO may be allowed to continue with the CSU program as determined by CSU. If a returning student is allowed to continue their study at SISE, CSU, then CSU will grant the student transfer credit for the courses completed at UWO.

## **7 ADVERTISING AND PROMOTION**

When advertising the transfer credit arrangement with UWO, CSU agrees not to:

- (a) undertake any form of advertising and promotion (either written or in electronic format) about UWO or any of its related entities without prior written approval of UWO;
- (b) use any registered or unregistered trade mark related to UWO or any of its related entities without the prior written approval of UWO;
- (c) make any inaccurate claims of association with UWO or any of its related entities with any other provider of education and training.

## **8. INSTITUTIONAL INDEPENDENCE**

The Universities acknowledge that they are autonomous institutions and as such make their own admission decisions relating to applicants at their respective institutions.

## **9. COMMUNICATION AND INFORMATION EXCHANGE**

- (a) Each University shall give the other reasonable notice of any anticipated changes to the list of courses set out in Schedule 1, or to the content of those courses.
- (b) UWO shall give CSU reasonable notice of any pending changes that may affect the admission and transfer credit arrangements in this Agreement.
- (c) CSU acknowledges that it shall give UWO reasonable notice of any proposed changes to their subjects/units/courses in Schedule 1 and it is agreed by CSU that UWO may alter the credit provided.
- (d) UWO will supply CSU with copies of UWO's international undergraduate course guide and relevant promotional materials for prospective students who are interested in applying for admission to UWO under this Agreement;
- (e) CSU and UWO will nominate staff annually to be responsible for the communications between the institutions. Current institutional contacts are set out in section 19.

## **10. STUDENT FEES**

Students enrolled at UWO must pay standard international and ancillary fees to UWO and purchase coverage under the University Health Insurance Program (UHIP). They will be responsible for their own travel and subsistence expenses. These fees are subject to change based on standard fee increases as approved by the Board of Governors through the annual review of all tuition and ancillary fees at UWO.

## **11. STUDENT MENTORING**

CSU students enrolled at UWO will be monitored by a Chinese faculty member to ensure early detection of academic problems so that they can be remedied in a timely fashion.

## **12. PROTECTION OF PERSONAL INFORMATION**

- (a) The Universities agree to take all reasonable measures to ensure that student personal information provided to it by the other institution is used only for the purpose for which it is provided and is protected against loss, unauthorised access, use, modification or disclosure.
- (b) The Universities agree that they will not to transfer personal information to a third party without the prior written consent of the individual to whom the information relates.

## **13. AMENDMENT**

This Agreement, including Schedule 1, may be amended with the agreement in writing of both Universities.

## **14. TERMINATION**

This Agreement is in effect for 5 years from the date of this Agreement and may be renewed with the Agreement in writing of both Universities. The Universities will enter into discussions regarding a possible renewal at least 12 months' prior to the termination of the Agreement.

Notwithstanding the above, either University may terminate this Agreement prior to its termination date

upon 6 months' written notice to the other University.

## 15. NOTICES

A notice under this agreement must be in writing and sent by prepaid air mail, facsimile or electronic mail to the other University as follows:

### CSU:

**Prof. Yang Chunhua**  
**Deputy Dean, School of Information Science and Engineering**  
**Email : [yqh@mail.csu.edu.cn](mailto:yqh@mail.csu.edu.cn)**  
**Tel : 86 731 88836876**

### UWO:

Prof. Bob Mercer, Chair  
Dept. of Computer Science  
Univ. of Western Ontario  
London, Ontario, Canada, N6A 5B7  
Tel: +1-519-661-2111 x86893  
Fax: +1-519-661-3515  
Email: [mercr@csd.uwo.ca](mailto:mercr@csd.uwo.ca)

Any changes to the name, address, facsimile number or electronic mail address must be communicated to the University.

This Agreement and its Schedule constitute the complete and full agreement between the parties as to its subject matter.

## 15. INSTITUTIONAL CONTACTS

### CSU

**Mr. Gao Dongbo**  
**International Officer**  
**Department of International Cooperation and Exchange**  
**Email: 86 731 88879256**  
**Fax: 86 731 88710136**

Prof. Liang Shuquan  
Director, Department of International Cooperation and Exchange  
Email: [lsq@mail.csu.edu.cn](mailto:lsq@mail.csu.edu.cn)  
Tel: 86 731 88876690  
Fax: 86 731 88710136

Prof. Huang Dongjun  
Dept. of Computer Science and Technology  
School of Information Science and Engineering  
Email: [djhuang@mail.csu.edu.cn](mailto:djhuang@mail.csu.edu.cn)  
Tel: 86 731 88836152  
Fax: 86 731 88876677

**Prof. Yang Chunhua**  
**Deputy Dean, School of Information Science and Engineering**  
**Email : [yhh@mail.csu.edu.cn](mailto:yhh@mail.csu.edu.cn)**  
**Tel(Fax) : 86 731 88836876**

## UWO

Prof. Mike Katchabaw  
Undergraduate Chair  
Dept. of Computer Science  
Univ. of Western Ontario  
London, Ontario, Canada N6A 5B7  
Tel: +1-519-661-2111 x84059  
Fax: +1-519-661-3515  
Email: [katchab@csd.uwo.ca](mailto:katchab@csd.uwo.ca)

Prof. Charles Ling  
Dept. of Computer Science  
Univ. of Western Ontario  
London, Ontario, Canada, N6A 5B7  
Tel: +1-519-661-3341  
Fax: +1-519-661-3515  
Email: [cling@csd.uwo.ca](mailto:cling@csd.uwo.ca)

Prof. Bob Mercer  
Chair  
Dept. of Computer Science  
Univ. of Western Ontario  
London, Ontario, Canada, N6A 5B7  
Tel: +1-519-661-2111 x86893  
Fax: +1-519-661-3515  
Email: [mercr@csd.uwo.ca](mailto:mercr@csd.uwo.ca)

Prof. John Barron  
Associate Chair  
Dept. of Computer Science  
Univ. of Western Ontario  
London, Ontario, Canada, N6A 5B7  
Tel: +1-519-661-2111 x86896  
Fax: +1-519-661-3515  
Email: [barron@csd.uwo.ca](mailto:barron@csd.uwo.ca)

Central South University

Per: \_\_\_\_\_  
Prof. Guiyuan Li  
Vice president (international)

Per: \_\_\_\_\_  
Prof. Shuquan Liang  
Director  
Department of International Cooperation and Exchange

The University of Western Ontario

Per: \_\_\_\_\_  
Dr. John Doerksen  
Vice-Provost (Academic Programs and Students)  
[Registrar]

Per: \_\_\_\_\_  
Dr. David Wardlaw  
Dean, Faculty of Science



### Schedule 1 (Course Mappings and Transfer Credit)

<b>No.</b>	<b>First Year Subject at CSU</b>	<b>Credit Weight</b>
1	Military Training (41000013)	2.5
2	Marxism (21050011)	3
3	College English (18040011)	4
4	Physical training (39000011)	1
5	Calculus IA (13070011)	5.5
6	Introduction to Info-Science (09000011)	1
7	Computer Science Fundamentals (09090011)	2.5
8	Practice of Computer Science Fundamentals (09090013)	1
9	Situation and Policy (40000011)	1
10	Chinese Modern History (21040021)	2
11	Mental Health (21020011)	1
12	Physical training (39000011)	1
13	College English (18040011)	4
14	Calculus IIA (13070021)	3
15	Calculus IIIA (13070031)	3.5
16	Linear Algebra I (13070081)	2
17	College Physics I (14030021)	4
18	Signal and Information Processing (09060011)	3
19	Programming Fundamentals (09090021)	3
20	Practice of Programming Fundamentals (09090023)	2
<b>No.</b>	<b>Second Year Subject at CSU</b>	<b>Credit Weight</b>
21	Moral Cultivation and Law (21020021)	3
22	College English (18040011)	4
23	Physical training (39000011)	1
24	Probability Theory B (13070091)	2

25	Statistics (13070101)	3.5
26	College Physics (14030021)	3.5
27	Physics Experiments (14040021)	3.5
28	Circuit and Electronics (09080121)	4
29	Electronics Experiments (09080141)	3.5
30	Discrete Mathematics (09040011)	3
31	Physical training (39000011)	1
32	Digital Circuit and Logic Design (09080131)	4
33	Electronics Experiments (09080141)	1
34	Project for Electronics (09080013)	2
35	Data Structure (09040021)	3.5
36	Information and Coding (09060022)	3
37	Communication Theory (09060422)	3
38	Mao Thought, Deng Theory and the Thought of Three Represents (21030021)	5
39	Project for Data structure (09040013)	2

<b>No.</b>	<b>Third Year Subject at UWO</b>	<b>Credit Weight</b>
40#	Operating Systems (CS 3305A/B)	<b>0.5</b>
41#	Object-Oriented Design and Analysis (CS 3307A/B/Y)	<b>0.5</b>
42	Databases (CS 3319A/B)	<b>0.5</b>
43	Law in Computer Science (CS 3325A/B)	<b>0.5</b>
44#	Foundations of Computer Science (CS 3331A/B)	<b>0.5</b>
45	Selected Topics (CS 3334A/B/Y)	<b>0.5</b>
46#	Analysis of Algorithms I (CS 3340A/B)	<b>0.5</b>
47#	Organization of Programming Languages (CS 3342A/B)	<b>0.5</b>
48	Artificial Intelligence I (CS 3346A/B)	<b>0.5</b>
49#	Computer Architecture (CS 3350A/B)	<b>0.5</b>
50	Computer Networks I (CS 3357A/B)	<b>0.5</b>
51	Software Project Management (CS 3377A/B)	<b>0.5</b>

52	Project (CS 3380F/G/Z)	0.5
53	Computer Graphics I (CS 3388A/B)	0.5
54	Design for Interactive Multimedia Learning (CS 3377)	0.5
55	Numerical Computing I (CS 3320)	0.5
56	Foundations of Computer Science I (CS 3331)	0.5
57	Selected Topics (CS 3333)	0.5
58	Selected Topics (CS 3334)	0.5
59	Selected Topics (CS 3335)	0.5
60	Selected Topics (CS 3336)	0.5
<b>No.</b>	<b>Fourth Year Subjects at UWO</b>	<b>Credit Weight</b>
61	Distributed and Parallel Systems (CS 4402A/B)	0.5
62	Cryptography and Security (CS 4413)	0.5
63	Compiler Theory (CS 4447A/B)	0.5
64	Software Maintenance and Configuration Management (CS 4470Y)	0.5
65	Software Design and Architecture (CS 4471)	0.5
66	Specification, Testing and Quality Assurance (CS 4472)	0.5
67	Requirements Analysis (CS 4473)	0.5
68	Human-Computer Interaction (CS 4474)	0.5
69	Algorithms for Image Analysis (CS 4487A/B)	0.5
70	Image Compression (CS 4481)	0.5
71	Game Design (CS 4483)	0.5
72#	Thesis (CS 4490Z)	0.5
73#	Introduction to Expository Writing (Writing 2101F/G)	0.5
74	Computer Networks II (CS 4457)	0.5
75	Databases II (CS 4411)	0.5
76	Data Mining and its Applications (CS 4412)	0.5
77	Foundations of Computer Algebra (CS 4424)	0.5
78	Foundations of Computer Science II (CS4432)	0.5
79	Selected Topics (CS 4433)	0.5

80	Selected Topics (CS 4434)	<b>0.5</b>
81	Selected Topics (CS 4435)	<b>0.5</b>
82	Selected Topics (CS 4436)	<b>0.5</b>
83	Selected Topics (CS 4437)	<b>0.5</b>
84	Selected Topics (CS 4438)	<b>0.5</b>
85	Artificial Intelligence II (CS 4442)	<b>0.5</b>
86	Semantics of Programming Languages (CS 4444)	<b>0.5</b>
87	Analysis of Algorithms II (CS 4445)	<b>0.5</b>
88	Bioinformatics Thesis (CS 4460)	<b>0.5</b>
89	Bioinformatics Tools and Applications (CS 4461)	<b>0.5</b>
90	DNA Computing (CS 4462)	<b>0.5</b>
91	Computational Biology (CS 4463)	<b>0.5</b>
92	Game Development Project (CS 4480)	<b>0.5</b>
93	Game Engine Development (CS 4482)	<b>0.5</b>

#### Explanation

1. In this table, all courses in the program are listed, including the courses at CSU for the first and second years and the courses at Western for the third and fourth years.
2. According to the CSU education plan, all courses at CSU listed in the table for the first 2 years are obligatory.
3. The obligatory courses at UWO for the third and fourth years in this table are marked with #s. The unmarked courses are elective courses.
4. CSU will give 2 transfer credits for each course successfully finished at Western during their last 2 years.
5. If students complete 10.0 courses in total, including those marked with #'s, they will satisfy the degree requirements at both CSU and at Western.
6. Essay credit requirements: Transfer credit students only require 1.0 essay course to satisfy the UWO requirements. Essay courses include at least 1.0 from the following courses: CS4490Z (thesis course), CS3380F/G/Z and Writing 2101F/G.
7. CSU students are required to complete at least 6.0 elective Computer Science courses in addition to the required courses marked with #s.

### **1st Year CSU to UWO Course Mapping**

1. 1.0 Political Science (1000TRN) based on Situation and Policy (40000011) taken in term 1, History of China (2140021) taken in term 2.
2. 1.0 Psychology (1000TRN) based on Mental Health (21020011) taken in term 2 and Moral Cultivation and Law (21020021) taken in term 3.
3. 1.0 Physics (1000TRN) based on College Physics II (14030021) taken in term 2 and 3, and Physics Lab II (14040021) taken in term 3
4. 1.0 Philosophy (1000TRN) based on Marxism (21050011) taken in term 1, Mao Thought, Deng Theory and the Thought of Three Represents (21030021) taken in term 4.
5. 0.5 Computer Science Fundamentals I (CS1026A/B) based on Computer Science Fundamentals (09090011) and Practice of Computer Science Fundamentals Lab (09090013) taken in term 1.
6. 0.5 Computer Science Fundamentals II (CS1027A/B) based on Programming Foundations (09090021) and Practice of Programming Foundation Lab (09090023) taken in term 2.

Total of 5.0 first year credits

### **2nd Year CSU to UWO Course Mapping**

1. 1.0 Mathematics 2155 and 2156 based on Discrete Mathematics (09040011) taken in term 3.
2. 0.5 CS2210a/b based on Data Structure 09040021 and Project for Data Structure (09040013) taken in term 4.
3. 0.5 CS2208a/b based on Circuits and Electronics 09080121 and Electronics Experiments Lab 09080141 taken in term 3 and Digital Circuit and Logic Design 09080131 and Electronic Experiments 09080141 taken in term 4
4. 0.5 CS2209a/b based on Info and Encoding (09060022) and Communication Theory (0906422) taken in term 4.
5. 0.5 Stats 2000TRN based on Probability Theory B (13070091) and Statistics II (13070101) taken in term 3
6. 0.5 Math 1229a/b based on Linear Algebra I (13070081) taken in term 2.
7. 1.0 Calculus 1000a/b plus 0.5 unspecified 1st year Math credit based on Calculus I A (13070011) taken in term 1.
8. 1.0 Calculus 2302a/b and 2303a/b based on Calculus II A (13070021) and Calculus III A (13070031) taken in term 2.

Total of 5.5 second year credits

There is a total of 10.5 credits for the first 2 years.

### **3rd Year UWO to CSU Course Mapping**

1. CS3319 Database I counts as Database (09040191)
2. CS3342 Organization of Programming Languages counts as Computer Principles and Assembly Language (09040012) and Project for Computer Principles and Assembly Language (09040043)
3. CS3357 Computer Networks counts as Computer Network (09040022), Project for Computer Networks (09040023), Computer Network Engineering (09040212) and Information and Network Security (09040232)
4. CS3305 Operating Systems counts as Operating System Principles (09040032)
5. CS3307 Object-Oriented Design and Analysis counts as Object-Oriented Programming (09040072)
6. CS3340 Analysis of Algorithms I counts as Algorithm Analysis and Design (09040062)

7. CS3377 Design for Interactive Multimedia Learning counts as Multimedia (09040122)
8. CS3377 Software Project Management counts as Software Engineering (09040082)
9. CS3350 Compute Architecture counts as Structure of Computer Systems (09040102)
10. CS3346 Artificial Intelligence I counts as Artificial Intelligence (09040172)
11. CS3388 Computer Graphics I counts as Computer Graphics (09040182)
12. CS3305 Operating Systems counts as Unix/Linux(09040222) and Project for Operating Systems (09040033)
13. CS3334 Selected Topics counts as Internship Program (09040053)
14. CS3319 Database I counts as Database Application and Development (09040242) and Project for Database (09040063)
15. CS3325 Law in Computer Science counts as Career Education (41000023)

#### **4th Year UWO to CSU Course Mapping**

1. CS4487 Algorithms for Image Analysis counts as Digital Image Processing (09040132) and Multimedia (09040122)
2. CS4481 Image Compression counts as Digital Image Processing (09040132)
3. CS4447 Compiler Theory counts as Compiler Principles (09040111)
4. CS4457 Computer Networks II counts as Computer Network Engineering (09040212) and Information and Network Security (09040232)
5. CS4471 Software Design and Architecture counts as Software Engineering (09040082) of Software Engineering credit
6. CS4472 Specification, Testing and Quality Assurance counts as Software Engineering (09040082) or Software Engineering credit
7. CS4473 Requirements Analysis counts as Software Engineering (09040082) or Software Engineering credit
8. CS4474 Human-Computer Interaction counts as Human-Computer Interaction (09040142)
9. CS4402 Distributed and Parallel Systems counts as Parallel Computing (09040152) and Distributed Systems (09040162)
10. CS4483 Game Design counts as Multimedia (09040122)
11. CS4413 Cryptography and Security counts as Information and Network Security (09040232)
12. CS4470 Software Maintenance and Configuration Management is mapped to Selected Topics - Overview of Advanced Computer Technology (09040252) and Selected topics III-Information Processing and Fusion (09040272)
13. CS4490/CS3380 – Honors Thesis/Project is mapped to Thesis (09040073)

#### **No mappings for CSU course to UWO course**

Military training (41000013)  
Introduction to Info-Science (09000011)  
Physical Education (39000011)  
College English (18040011)  
Embedded Systems (09040092)  
Web technology (09040202)  
e-Business and e-Government (09050072)  
Simulation and Modeling (09040192)  
Physical test (39000021)

**No mapping for UWO course to CSU course**

CS 3320 Numerical Computing 1  
CS 3331 Foundations of Computer Science I  
CS 3333 Selected Topics  
CS 3334 Selected Topics  
CS 3335 Selected Topics  
CS 3336 Selected Topics  
CS 4411 Databases II  
CS 4412 Data Mining and its Applications  
CS 4424 Foundations of Computer Algebra  
CS 4432 Foundations of Computer Science II  
CS 4433 Selected Topics  
CS 4434 Selected Topics  
CS 4435 Selected Topics  
CS 4436 Selected Topics  
CS 4437 Selected Topics  
CS 4438 Selected Topics  
CS 4442 Artificial Intelligence II  
CS 4444 Semantics of Programming Languages  
CS 4445 Analysis of Algorithms II  
CS 4460 Bioinformatics Thesis  
CS 4461 Bioinformatics Tools and Applications  
CS 4462 DNA Computing  
CS 4463 Computational Biology  
CS 4480 Game Development Project  
CS 4482 Game Engine Development  
CS 2101 Introduction to Exposition Writing

Note:

In the last 2 years, if students successfully complete any non-mapped course, e.g. CS4433 Selected Topics, CSU will give them 2 transfer credits.