Curriculum Requirements

The program has two components: the MCC component and WSU component. The detailed description and course sequences in each component are listed as follows:

1. Macomb Community College Component – AAS in Information Technology
   
2. Wayne State University Component – BA or BS in Computer Science, or BA in Information Systems Technology

This articulated plan of study combines completion of an Association of Applied Science degree in Information Technology – Programming and the MACRAO General Education certification from MCC.

MCC AAS: Information Technology – Programming to WSU BA in Computer Science

Macomb Coursework—Before Transfer:

General Education & Competency Requirements 33 - 37 Hrs

- Basic Composition: ENGL 1180 – Communications 1 or ENGL 1210 – Composition 1 3-4
- Intermediate Composition: ENGL 1190 – Communications 2 or ENGL – Composition 2 3-4
- Mathematics: MATH 1460 – Pre-Calculus 4
- Social Science (Select 2): GEOG 2000, ANTH 1000, ECON 1160, ECON 1170, SOCY 1010, SOCY 1100 6-8
- Humanities: HUMN 1750 3
- Foreign Language: FREN 2360, GRMN 2360, ITAL 2360, SPAN 2360 4
- Life Science: BIOL 1000*, 1400, 2400*; ENVS 1050; NATS 1200*, 1310*; PSYC 1010 4
- Physical Science: ASTR 1030 + 1040, CHEM 1050*, CHEM 1170*, GEOL 1140*, NATS 1210*, PHSA 1050*, PHYS 1180*, PHYS 2220* 4
- PHED Any course 2

*Course meets laboratory science requirement. One Life Science or Physical Science is required to be a laboratory course.

Core Requirements 49-51 Hrs

- MATH 1760: Analytical Geometry & Calculus 1 4
- BCOM 2050: Business Communications 4
- ITCS 1010: Computer & Information Processing Principles 4
- Or ITCS 2335: Foundations of Business Information Technology 4
- ITCS 1130: Introduction to Program Design & Development 3
- ITWP 1000: Introduction to Web Programming 3
ITCS 1230: Visual Basic Programming 4
Or ITCS 2590: Java 1 4
ITCS 1170: Database Design & Implementation with SQL & SML 4
ITCS 2530: C++ Programming 1 4
BCOM 2070: Technical Business Communications & Project Management Principles 3
ITWP 2300: Building Dynamic, Intelligent Web Based Solutions with ASPNET 3
ITCS 2830: Applications Implementation & Testing 4
Select one:
  ITCS 2000 Game Programming in Direct X with C++ 4
  ITCS 2220 Advanced Visual Basic 3
  ITCS 2550 C++ Programming 2 3
  ITCS 2620 Java 2 3
Select two:
  ACCT 1080 Principles of Accounting 1 4
  BCOM 2060 Advanced Business Communications 3
  BUSN 1010 Introduction to Business 3
  MGMT 1010 Principles of Management 3

MCC AAS: Information Technology – Programming to WSU BA in Computer Science

WSU Coursework—After Transfer:

Major Requirements 37 Hrs
MAT 2210: Elementary Probabilities and Statistics 4
CSC 1500: Fundamental Structures in Computer Science 3
CSC 1501: Laboratory for Fundamental Structures in Computer Science 1
CSC 2200: Data Structures and Algorithm Analysis 3
CSC 2201: Laboratory for Data Structures and Algorithm Analysis 1
CSC 3100: Computer Organization and Architecture 3
CSC 3101: Laboratory for Computer Organization and Architecture 1
CSC 4100: Introduction to Software Engineering 3
CSC 4101: Laboratory for Introduction to Software Engineering 1
CSC 4420: Operating Systems 3
CSC 4221: Laboratory for Operating Systems 1
CSC 4996: Senior Project and Computer Ethics 3
CSC 4997: Senior Project Lab 1
Three additional CSC electives of at least three credits each, all numbered at or above 3000, excluding CSC 4990 and 4995 9

Maximum Macomb Credits = 82  Minimum WSU Credits = 37
Total Credits required for Bachelor of Arts in Computer Science = 120
Note: A grade of C- or better is required for Core Requirements to transfer. This guide and its requirements are subject to change and should be used in consultation with an academic advisor.
MCC AAS: Information Technology – Programming to WSU BS in Computer Science

*Macomb Coursework—Before Transfer:*

**General Education & Competency Requirements 33 - 37 Hrs**
- **Basic Composition:** ENGL 1180 – Communications 1 or ENGL 1210 – Composition 1 3-4
- **Intermediate Composition:** ENGL 1190 – Communications 2 or ENGL – Composition 2 3-4
- **Mathematics:** MATH 1460 – Pre-Calculus 4
- **Social Science (Select 2):** GEOG 2000, ANTH 1000, ECON 1160, ECON 1170, SOCY 1010, SOCY 1100 6-8
- **Humanities:** HUMN 1750 3
- **Foreign Language:** FREN 2360, GRMN 2360, ITAL 2360, SPAN 2360 4
- **Life Science:** BIOL 1000*, 1400, 2400*; ENVS 1050; NATS 1200*, 1310*; PSYC 1010 4
- **Physical Science:** ASTR 1030 + 1040, CHEM 1050*, CHEM 1170*, GEOL 1140*, NATS 1210*, PHSA 1050*, PHYS 1180*, PHYS 2220* 4
- **PHED** Any course 2

*Course meets laboratory science requirement. One Life Science or Physical Science is required to be a laboratory course.

**Core Requirements 56-58 Hrs**
- MATH 1760: Analytic Geometry & Calculus 1 4
- MATH 1770: Analytic Geometry & Calculus 2 4
- MATH 2000: Introduction to Linear Algebra 3
- BCOM 2050: Business Communications 4
- ITCS 1010: Computer & Information Processing Principles 4
  - Or ITCS 2335: Foundations of Business Information Technology 4
- ITCS 1130: Introduction to Program Design & Development 3
- ITWP 1000: Introduction to Web Programming 3
- ITCS 1230: Visual Basic Programming 4
  - Or ITCS 2590: Java 1 4
- ITCS 1170: Database Design & Implementation with SQL & SML 4
- ITCS 2530: C++ Programming 1 4
- BCOM 2070: Technical Business Communications & Project Management Principles 3
- ITWP 2300: Building Dynamic, Intelligent Web Based Solutions with ASPNET 3
- ITCS 2830: Applications Implementation & Testing 4

Select one:
- ITCS 2000 Game Programming in Direct X with C++ 4
- ITCS 2220 Advanced Visual Basic 3
- ITCS 2550 C++ Programming 2 3
- ITCS 2620 Java 2 3

Select two:
- ACCT 1080 Principles of Accounting 1 4
- BCOM 2060 Advanced Business Communications 3
- BUSN 1010 Introduction to Business 3
- MGMT 1010 Principles of Management 3
WSU Coursework—After Transfer:

Major Requirements 40 Hrs
MAT 2210: Elementary Probabilities and Statistics  4
CSC 1500: Fundamental Structures in Computer Science 3
CSC 1501: Laboratory for Fundamental Structures in Computer Science 1
CSC 2200: Data Structures and Algorithm Analysis 3
CSC 2201: Laboratory for Data Structures and Algorithm Analysis 1
CSC 3100: Computer Organization and Architecture 3
CSC 3101: Laboratory for Computer Organization and Architecture 1
CSC 3110: Algorithm Design and Analysis 3
CSC 4100: Introduction to Software Engineering 3
CSC 4101: Laboratory for Introduction to Software Engineering 1
CSC 4420: Operating Systems 3
CSC 4421: Laboratory for Operating Systems 1
CSC 4500: Introduction to Theoretical Computer Science 3
CSC 4996: Senior Project and Computer Ethics 3
CSC 4997: Senior Project Lab 1
Two additional CSC electives of at least three credits each, all numbered at or above 3000, excluding CSC 4990 and 4995  6

Maximum Macomb Credits = 89  Minimum WSU Credits = 40
Total Credits required for Bachelor of Science in Computer Science  = 129

Note: A grade of C- or better is required for Core Requirements to transfer. This guide and its requirements are subject to change and should be used in consultation with an academic advisor.
Macomb Coursework—Before Transfer:

General Education & Competency Requirements 33 - 37 Hrs

Basic Composition: ENGL 1180 – Communications 1 or ENGL 1210 – Composition 1  3-4
Intermediate Composition: ENGL 1190 – Communications 2 or ENGL – Composition 2  3-4
Mathematics: MATH 1460 – Pre-Calculus  4
Social Science: GEOG 2000, ANTH 1000, ECON 1170, SOCY 1010, SOCY 1100  3-4
Social Science: ECON 1160  3
Humanities: HUMN 1750  3
Foreign Language: FREN 2360, GRMN 2360, ITAL 2360, SPAN 2360  4
Life Science: BIOL 1000*, 1400, 2400*; ENVS 1050; NATS 1200*, 1310*; PSYC 1010  4
Physical Science: ASTR 1030 + 1040, CHEM 1050*, CHEM 1170*, GEOL 1140*, NATS 1210*, PHSA 1050*, PHYS 1180*, PHYS 2220*  4
PHED  Any course  2

*Course meets laboratory science requirement. One Life Science or Physical Science is required to be a laboratory course.

Core Requirements 50-51 Hrs

MATH 1760: Analytical Geometry & Calculus 1  4
BCOM 2050: Business Communications  4
ITCS 1010: Computer & Information Processing Principles  4
Or ITCS 2335: Foundations of Business Information Technology  4
ITCS 1130: Introduction to Program Design & Development  3
ITWP 1000: Introduction to Web Programming  3
ITCS 1230: Visual Basic Programming  4
Or ITCS 2590: Java 1  4
ITCS 1170: Database Design & Implementation with SQL & SML  4
ITCS 2530: C++ Programming 1  4
BCOM 2070: Technical Business Communications & Project Management Principles  3
ITWP 2300: Building Dynamic, Intelligent Web Based Solutions with ASPNET  3
ITCS 2830: Applications Implementation & Testing  4
Select one:
   ITCS 2000 Game Programming in Direct X with C++  4
   ITCS 2220 Advanced Visual Basic  3
   ITCS 2550 C++ Programming 2  3
   ITCS 2620 Java 2  3
ACCT 1080: Principles of Accounting 1  4
MGMT 1010: Principles of Management  3
MCC AAS: Information Technology – Programming to WSU BA in Information Systems Technology

**WSU Coursework—After Transfer:**

**Major Requirements 42 Hrs**
- MAT 2210: Elementary Probabilities and Statistics 4
- CSC 1500: Fundamental Structures in Computer Science 3
- CSC 1501: Laboratory for Fundamental Structures in Computer Science 1
- CSC 2200: Data Structures and Algorithm Analysis 3
- CSC 2201: Laboratory for Data Structures and Algorithm Analysis 1
- CSC 3100: Computer Organization and Architecture 3
- CSC 3101: Laboratory for Computer Organization and Architecture 1
- CSC 3750: Introduction to Web Technology 3
- CSC 4100: Introduction to Software Engineering 3
- CSC 4101: Laboratory for Introduction to Software Engineering 1
- CSC 4420: Operating Systems 3
- CSC 4421: Laboratory for Operating Systems 1
- CSC 4500: Introduction to Theoretical Computer Science 3
- CSC 4710: Information Systems Design 3
- CSC 4996: Senior Project and Computer Ethics 3
- CSC 4997: Senior Project Lab 1
- CSC 5750: Principles of Web Technology 3

Note: Business course requirements met through AAS requirements at MCC.

**Maximum Macomb Credits = 83  Minimum WSU Credits = 42**

**Total Credits required for Bachelor of Arts in Information Systems Design = 125**

Note: A grade of C- or better is required for Core Requirements to transfer. This guide and its requirements are subject to change and should be used in consultation with an academic advisor.