

Lock Haven University
Business & Computer Science Department

Bachelor of Science
Applied Computer Science and Information Systems Major

For Students entering LHU Fall 2014

GENERAL EDUCATION REQUIREMENTS	42 sh
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INTELLECTUAL FOUNDATION	9 sh	Taken	Grade
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Written Communication 3 sh

ENGL100

WC Competency 1: COMP220
WC Competency 2: COMP304 or COMP405

Oral Communication 3 sh

Mathematical and Computational Thinking 3 sh

MATH107 #

Critical Thinking

CT Competency 1: COMP160
CT Competency 2: COMP220

KNOWLEDGE & INQUIRY	21 sh
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Natural Science Inquiry (at least 1 lab science) 6 sh

Historical, Behavioral, and Social Science Inquiry 6 sh

Philosophical, Literary, and Aesthetic Inquiry 9 sh

(at least 1 from Visual or Performing Arts & and
1 from Philosophy or Literature)

PERSONAL & SOCIAL RESPONSIBILITY	12 sh
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Global Awareness & Citizenship (at least 1 GAC-H) 9 sh

Wellness 3 sh

Experiential Learning

EL Competency 1 (1 unit)
EL Competency 2 (1 unit)
OR Internship (1 credit = 2 units)

ELECTIVES	18 sh
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NOTE: Either ENGL345 or ENGL360 is recommended

NOTE: MATH COURSES MAY BE REQUIRED

If math placement score is BELOW 9 in:

- Cat. 1, MATH 009 is required as a 0 credit course
- Cat. 2, MATH100 is required as a gen ed elective
- Cat. 3, MATH112 is required as a gen ed elective

MAJOR REQUIREMENTS	60 sh
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A GPA of 2.0 or higher is required for graduation, both overall and in the major.

MAJOR CORE	30 sh
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When Taken Grade

COMP119 Intro to Comp & Prob Solv 3 sh F _____
Transfer Students may substitute a major elective
Meets FYS requirement

COMP150 Introduction to Computers 3 sh F&S _____

COMP160 Programming I # 3 sh F&S _____
Prerequisite: Appropriate Math Placement/MATH112

COMP200 Fundamentals of Networking # 3 sh S _____
Prerequisite: COMP150 or COMP119

COMP202 Intro to Systems Admin # 3 sh F _____
Corequisite: COMP160

COMP205 Web-Based Application Dev. # 3 sh S _____
Prerequisite: COMP160

COMP220 Contemp Issues in Comp # 3 sh F _____
Prerequisite: COMP150

COMP255 Database Design # 3 sh F _____
Prerequisite: COMP160 or COMP250

COMP230 Discrete Struc & Formal Lang # 3 sh S _____
Prerequisite: COMP160 and MATH107

COMP475 Senior Capstone # 3 sh S _____

MAJOR TRACKS	30 sh
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Each student is required to complete a track within the major.

Current options are:

- Mobile and Game Application Development Track*
- Database and Network Administration Track*
- Interdisciplinary Computing Track*

Requirements for our three tracks are provided on the next page.

Note: The # symbol indicates advanced coursework.

Bachelor of Science
Proposed Applied Computer Science and Information Systems Major

For Students entering LHU Fall 2014

Mobile and Game Application Development Track (30 credits)		<i>Hrs</i>	<i>When</i>	<i>Taken</i>	<i>Grade</i>
COMP161	Programming II # (<i>Prerequisite: COMP160</i>)	3	F	_____	_____
COMP225	Mobile Device Programming # (<i>Prerequisite: COMP161</i>)	3	F	_____	_____
COMP240	Game Programming # (<i>Prerequisite: COMP161</i>)	3	S	_____	_____
COMP300	Data Structures and Algorithms # (<i>Prerequisite: COMP161</i>)	3	S	_____	_____
COMP302	C/C++ for Systems Programming # (<i>Prerequisite: COMP161</i>)	3	F	_____	_____
COMP405	Software Engineering# (<i>WC, Prerequisite: COMP300</i>)	3	F	_____	_____
COMP430	Computer Graphics # (<i>Prerequisite: COMP302</i>)	3	F	_____	_____
MATH141	Calculus I # (<i>Prerequisite: Appropriate Math Placement/MATH113</i>)	3	F&S	_____	_____
_____	Major Elective	3		_____	_____
_____	Major Elective	3		_____	_____

Suggested Major Electives Include:

- COMP315 Network Programming # (*Prerequisite: COMP300*)
- COMP410 Machine Learning & Robotics # (*Prerequisite: COMP300*)
- MATH142 Calculus II # (*Prerequisite: MATH141*)
- MATH211 Linear Methods # (*Prerequisite: MATH141*)

Database and Network Administration Track (30 credits)		<i>Hrs</i>	<i>When</i>	<i>Taken</i>	<i>Grade</i>
COMP260	Information Technology Project Management # (<i>Prerequisite: COMP160 or COMP255</i>)	3	S	_____	_____
COMP304	Data and Computer Communications # (<i>WC, Prerequisite: COMP200</i>)	3	S	_____	_____
COMP305	Database Application Development # (<i>Prerequisite: COMP255</i>)	3	S	_____	_____
COMP322	Database Systems Administration # (<i>Prerequisite: COMP202 and COMP255</i>)	3	S	_____	_____
COMP325	Advanced SQL # (<i>Prerequisite: COMP255</i>)	3	F	_____	_____
COMP407	Network Systems Administration # (<i>Prerequisite: COMP200</i>)	3	S	_____	_____
COMP412	Network Security # (<i>Prerequisite: COMP200</i>)	3	F	_____	_____
MATH180	Math for Management # (<i>Prerequisite: MATH107 and Appropriate Math Placement/MATH112</i>)	3	F&S	_____	_____
_____	Major Elective	3		_____	_____
_____	Major Elective	3		_____	_____

Suggested Major Electives Include:

- MANG101 Introduction to Management Information Systems
- MANG305 Operations and Productions Management # (*Prerequisite: COMP250 and MATH180*)
- MANG325 Financial Management # (*Prerequisite: ACCT110 and ECON101*)

Interdisciplinary Computing Track (30 credits)

Note: The Interdisciplinary Computing track requires the student, with guidance from the advisor, to develop a detailed study plan prior to declaring this track. This plan must be approved by the Departmental Interdisciplinary Committee and two consulting faculty members from a second discipline. It is suggested that courses in the track consist of at least 4 COMP classes and an additional MATH or COMP class.

Please refer to the Interdisciplinary Track approval form for course tracking.

Major Elective Requirements

Major electives include courses in other tracks as well as COMP369 (Internship), COMP499 (Independent Study), and any 200, 300 or 400-level COMP course not in the core such as those listed above and COMP402 Algorithm Design and Analysis, COMP415 Structures of Programming Languages, COMP480 Special Topics, etc .

The following courses can also count towards the major elective requirement: ART217, ART308, MANG101, MRKT305, BIOL106, BIOL107, CHEM120, CHEM121, PHYS170, PHYS171, PHYS290, MATH142, MATH205, MATH211, MATH243, MATH244 or any 300 or 400 level MATH course aside from 316, 359, 415, 416, 493, 494.

Classes that satisfy a general education requirement cannot be used as a major elective.