

INFORMATION SCIENCE

Required Coursework and Graduation Checklist for U of A Degree

2022 Cohort Only

NOTE: In order to graduate, students must satisfy all general education and foundational coursework in addition to satisfying all graduation policies and protocols. Requirements for the Northern Kazakhstan University degree may vary. Please consult with your NKU advisor on the NKU degree requirements.

Graduation Checklist (Check if applicable):

1. Have you completed ALL of the required coursework below with a “passing” grade? (Students must obtain at least a “C” grade in courses taught by NKU and U of A.) ☐
2. Did you receive a “D” or “E” in any of your courses? Contact your Academic Advisor to discuss your next steps. ☐
3. Have you completed the Mid-Career Writing Assessment by earning at least a “B” grade in ENGL 108 (if you earned lower than a “B” grade, please consult with your U of A advisor)? ☐
4. Have you completed 120 total units towards your degree? (You can view this total on the U of A Advisement Report on UAccess Student) ☐
5. Have you completed 42 upper division units (300-400 level) towards your degree? (You can view this total on the U of A Advisement Report on UAccess Student) ☐
6. Have you completed 30 residence units (U of A taught courses) towards your degree? (You can determine this in Course History in UAccess Student) ☐
7. Is your final cumulative University of Arizona GPA a minimum of 2.0? (You can view this GPA on the U of A Advisement Report on UAccess Student) ☐
8. Is your final major University of Arizona GPA a minimum of 2.0? (You can view this GPA on the U of A Advisement Report on UAccess Student) ☐

NOTE: Grades earned in courses from NKU **are not** included in the cumulative, major, or term University of Arizona GPA calculation, but the transfer credits **are** included in the upper division units and total units requirements.

GENERAL EDUCATION COURSES:

There are multiple subject areas for General Education courses. Within each subject area, students must take a certain number of courses. The number of courses and course options are indicated below:

Courses written in **red** are U of A courses.

| Course Number | NKU Course Title | U of A Requirements or Equivalent Course Title | Credits | Grade |
|---|--|--|---------|--------------|
| EXPLORING PERSPECTIVES (12 CREDITS REQUIRED) | | | | |
| Phi3109 | Philosophy | Exploring Perspectives: Humanist | 2.5 | ACC required |
| HK1102 | Modern History of Kazakhstan | Additional EPH Units | 2.5 | |
| ISTA 301 | Computing and the Arts – U of A Taught | Exploring Perspectives: Artist | 3 | ACC required |
| MSPK1103 | Module of Socio-Political Knowledge | Exploring Perspectives: Social Scientist | 4 | ACC required |
| PHY1205 | Physics I | Exploring Perspectives: Natural Scientist | 3 | ACC required |

BUILDING CONNECTIONS (9 CREDITS REQUIRED)
Substitution will be made to add 1 additional credit to reach 9 credits.

Choose 1

| | | | | | |
|----------|---|---|-----|--------------|--|
| BLAC1106 | Bases of Law and Anticorruption Culture | | | | |
| EFE1106 | Economics and Fundamentals of Enterp. | | | | |
| MSR1106 | Methods of Scientific Research | General Education: Building Connections I | 2.5 | ACC required | |
| ESD1106 | Ecology and Sustainable Development | | | | |
| BLS1106 | Fundamentals of Life Safety | | | | |
| CC1106 | Climate Change | | | | |
| ICT2110 | Information Communication Tech. | General Education: Building Connections 2 | 3 | ACC required | |
| ADV2211 | Applied Data Visualization | General Education: Building Connections 3 | 2.5 | ACC required | |

MATH (3 CREDITS)

| | | | | | |
|--------|--------------------|-----------|------------|---|--|
| HM1202 | Higher Mathematics | MATH 122B | Calculus I | 3 | |
|--------|--------------------|-----------|------------|---|--|

ENGLISH COMPOSITION (9 CREDITS)

| | | | |
|----------|---|---|--|
| ENGL 106 | Foundations Writing for English (U of A Taught) | 3 | |
| ENGL 107 | Foundations Writing for English (U of A Taught) | 3 | |
| ENGL 108 | Foundations Writing for English (U of A Taught) | 3 | |

REQUIRED INFORMATION SCIENCE COURSES – 30 credits total

Courses written in **red** are U of A courses.

| NKU Course Number | NKU Course Title | U of A Equivalent Course | U of A Degree Requirements | Credit | Grade |
|-------------------|---------------------------------|--------------------------|----------------------------------|--------|-------|
| CM2214 | Computer Mathematics | ISTA 130 | Computational Thinking and Doing | 3 | |
| IIS201 | Introduction to Information Sys | ISTA 100 | Great Ideas of the Info Age | 3 | |
| ADS2216 | Algorithms and Data Structures | | | | |
| Or | Or | ISTA 116 | Statistical Foundations | 2.5 | |
| ADSA2216 | Analysis of Discrete Structures | | | | |
| | | ISTA 131 | Dealing with Data | 4 | |
| | | ISTA 161 | Ethics in a Digital World | 3 | |
| | | ESOC 302 | Quantitative Methods | 3 | |
| | | ISTA 301 | Computational Arts and Media | 3 | |
| IS3217 | Information Security | | | 2.5 | |
| | | ESOC 480 | Digital Engagement | 3 | |
| | | ISTA 498 | Senior Capstone | 3 | |

EMPHASIS IN DATA SCIENCE CORE COURSES – 16 credits total

Courses written in **red** are U of A courses.

| NKU Course Number | NKU Course Title | U of A Equivalent Course | U of A Degree Requirements | Credit | Grade |
|-------------------|------------------|--------------------------|----------------------------|--------|-------|
| | | ISTA 321 | Data Mining and Discovery | 3 | |

| | | | | | |
|----------------------------|---|----------|-----------------|-----|--|
| | | ISTA 457 | Neural Networks | 3 | |
| DMS2212 | Database Management Systems | | | 2.5 | |
| FCN3218 | Fundamentals of Computer Netw. | | | 2.5 | |
| EKDS3312 OR STIS3312 | Expert Knowledge and Decision Support Systems OR Special Topics in Information, Science, Technology & Arts | | | 2.5 | |
| MTA3309 OR IMDM3309 | Mobile Technologies and Applications OR Information, Multimedia Design and the Moving Image | | | 2.5 | |

THEMATIC MINOR: INFORMATION SYSTEMS MANAGEMENT COURSES – 18.5 credits total

Courses written in **red** are U of A courses.

| NKU Course Number | NKU Course Title | U of A Equivalent Course | U of A Degree Requirements | Credit | Grade |
|----------------------------|--|--------------------------|--|--------|-------|
| IWDD2208 | Introduction to Web Design & Dev. | | | 2.5 | |
| OOP2308 OR PIA2308 | Object Oriented Programming OR Programming for Informatics App. | | | 3 | |
| CAOS2209 | Computer architecture and OS | | | 2 | |
| WP3301 | Web Programming | | | 3 | |
| WADM3311 OR TRWS3311 | Web Analytics & Digital Marketing OR Text Retrieval & Web Search | | | 2.5 | |
| STQA3310 OR SRAT3310 | Software Testing & Quality Assurance OR Software Requirements Analysis & Test | | | 2.5 | |
| | | ISTA 350 | Programming for Informatics Applications | 3 | |

STUDENT SUCCESS COURSES: Student Success Courses are taught by U of A. HED 102A and 102B are taught for every cohort.

| University of Arizona – Student Success Courses | Grade | NKU |
|---|-------|-----|
| HED 102A: Succeeding as a Global Wildcat I | P | |
| HED 102B: Succeeding as a Global Wildcat II | | |