

A.A.S. Information Systems Technology: Cloud Computing Specialization

ADVANCE Program Milestones

ADVANCE Milestone Requirements: All ADVANCE students must adhere to the following requirements. For Milestones #1-#3, failure to meet these milestones will prevent a student from matriculating to Mason and/or result in termination from ADVANCE. For Milestones #4-#7, failure to meet these milestones may delay matriculation to Mason.

1. Students must graduate with the NOVA degree aligned with their ADVANCE academic pathway within 4 years of being admitted into ADVANCE. Students are highly encouraged to be continuously enrolled at NOVA/Mason to support progress towards degree completion.
2. Students must maintain a minimum 2.5 cumulative GPA at NOVA and must have a minimum 2.5 GPA upon matriculation to Mason.
3. Students who wish to enroll at Mason for the fall semester must apply for NOVA spring graduation by March 1 or summer graduation by June 1. Students who wish to enroll at Mason for the spring semester must apply for NOVA fall graduation by October 1.
4. Students must begin developmental coursework no later than the first semester in ADVANCE at NOVA.
5. Students must take first college-level MTH course and ENG 111 in the semester immediately following the completion of any MDE or EDE courses (excluding summer).
6. In the first 30 credits, students must complete ENG 111 and ENG 112 with a C or better.
7. Students must complete a college level math course with a C or better no later than one semester before NOVA graduation. Refer to your pathway to select the appropriate MTH course(s).

ADVANCE Program-Specific Requirements:

BAS programs have specialized admission criteria. In this pathway, the Mason Core Quantitative Reasoning course is may be completed at Mason. Refer to the courses below to select the appropriate math course at NOVA. The following pathway allows students to pursue either a Cloud Technology or Cloud Systems Management track within the Cloud Computing Concentration. In the Cloud Technology track, students will learn how to build and implement cloud systems, which requires more technical coursework and higher-level math skills, including Applied Calculus and Discrete Math. In the Cloud Systems Management track, students will learn how to manage and deploy current cloud systems in a business environment. Students should select their track and math coursework at NOVA carefully based on their goals. For more information, email bas@gmu.edu.

If English is not your first language or you have completed ESL coursework, you must complete ENG 111 and ENG 112 prior to matriculating to Mason to meet the English Language Proficiency requirement. Please reach out to ADVANCE Admissions early if you have any questions about this requirement: advance@gmu.edu.

BAS degrees are designed for adult learners who have some work experience in their field of choice, but the degree is open to students of all ages. Further, BAS degrees are often considered terminal degrees (i.e., they may not lead to advanced study in master's degree or doctoral programs). Students who are interested in advanced study are encouraged to contact graduate programs early to determine if the BAS program fits their requirements. To explore possible Bachelor's to Accelerated Master's (BAM) program options from the BAS degree at Mason, visit: <https://bas.gmu.edu/academics/bam/>. Currently, BAM options are only available from the Cloud Systems Management track in this concentration.

| | NOVA DEGREE REQUIREMENT | Credits | Courses | MASON TRANSFER EQUIVALENT | MASON CORE/DEGREE EQUIVALENT |
|---|---|---------|---|---------------------------|------------------------------|
| 1 | SDV Course | 1 | SDV 100 College Success Skills OR SDV 101 Orientation to Information Technology | UNIV 100 | General Elective |
| 2 | ENG 111 | 3 | ENG 111 College Composition I ¹ | ENGH XXX | General Elective |
| 3 | ITE 152 | 3 | ITE 152 Introduction to Digital and Information Literacy and Computer Applications | IT 104 | Major & Info Tech |
| 4 | ITN 100 Required (NOVA Catalog ITN 100 or ITN 101) | 3 | ITN 100 Introduction to Telecommunications ² | See ITE 221 | Major or General Elective |
| 5 | ITN 257 | 3 | ITN 257 Cloud Computing: Infrastructure and Services | BAS XXX | General Elective |

| | | | | | |
|---|---|---------|---|---|--|
| 6 | MTH 154 or MTH 155 or Higher | 3 | Cloud Technology Track: MTH 161 PreCalculus I ³ Cloud System Management Track: MTH 154 Quantitative Reasoning OR MTH 155 Statistical Reasoning | MATH 103T MATH 106 STAT 105T | MTH 161: Prerequisite & General Elective MTH 154 or MTH 155: Quantitative |
| 7 | ITD 256 | 3 | ITD 256 Advanced Database Management | IT XXX | General Elective |
| 8 | ITE 221 Required (NOVA Catalog ITN 107 or ITE 221) | 3 | ITE 221 Personal Computer Hardware and OS Architecture ² | IT 105 & IT XXX | Major or General Elective |
| 9 | ITN 200 | 3 | ITN 200 Administration of Network Resources | BAS XXX | General Elective |
| 10 | ITN 260 | 3 | ITN 260 Network Security Basics | IT XXX | General Elective |
| 11 | Approved Elective | 3 | ENG 112 College Composition II ¹ | ENGH 101 | Written Comm |
| 12 | ITP 100 | 3 | ITP 100 Software Design | IT XXX | General Elective |
| 13 | ITD 110 | 3 | ITD 110 Web Page Design I | IT XXX | General Elective |
| 14 | ITN 170 | 3 | ITN 170 Linux System Administration | BAS XXX | General Elective |
| 15 | ITN 213 | 3 | ITN 213 Information Storage and Management | BAS XXX | General Elective |
| 16 | ITP Programming Elective | 4 | ITP 120 Java Programming I ⁴ OR ITP 150 Python Programming ⁴ | IT 106 IT 109 | Major or General Elective |
| 17 | CST Elective | 3 | CST 100 Principles of Public Speaking OR CST 110 Introduction to Human Communication | COMM 100 COMM 101 | Oral Comm |
| 18 | ITN 254 | 4 | ITN 254 Virtual Infrastructure: Installation & Configuration | BAS XXX | General Elective |
| 19 | Humanities/Fine Arts | 3 | ART 100 Art Appreciation OR ART 101 History of Art: Prehistoric to Gothic OR ART 102 History of Art: Renaissance to Modern OR CST 130 Introduction to Theatre OR CST 151 Film Appreciation I OR MUS 121 Music in Society | ARTH 101 ARTH 200 ARTH 201 THR 101 ENGH L372 MUSI 101 | Arts |
| 20 | Social/Behavioral Sciences #1 | 3 | ECO 201 Principles of Macroeconomics OR ECO 202 Principles of Microeconomics OR GEO 210 People and the Land: An Introduction to Cultural Geography OR HIS 121 United States History to 1877 OR HIS 122 United States History Since 1865 OR PLS 135 U.S. Government and Politics OR PSY 200 Principles of Psychology OR PSY 230 Developmental Psychology OR SOC 200 Introduction to Sociology OR SOC 211 Cultural Anthropology | ECON 104 ECON 103 GGS 103 HIST 121 HIST 122 GOVT 103 PSYC 100 PSYC 211 SOCI 101 ANTH 114 | Soc/Behav |
| 21 | Social/Behavioral Sciences #2 | 3 | HIS 101 Western Civilizations Pre-1600 CE OR HIS 102 Western Civilizations Post-1600 CE OR HIS 112 World Civilizations Post-1500 CE (<i>recommended</i>) | HIST 101T HIST 102T HIST 125 | Global History |
| A.A.S. IST CLOUD DEGREE TOTAL 63 | | | | | |
| For academic policies and procedures, please see NOVA catalog - http://www.nvcc.edu/catalog/index.html | | | | | |
| B.A.S. Applied Science Cloud Computing Concentration | | | | | |
| | MASON DEGREE REQUIREMENT | Credits | Course | | MASON CORE/DEGREE EQUIVALENT |
| 22 | Gen Ed: Written Communication (LL) | 0-3 | ENGH 101 Composition ¹ (<i>if ENG 112 is not completed at NOVA</i>) | | Written Comm |
| 23 | Concentration Requirements | 3 | Cloud Technology Track: MATH 108 Introductory Calculus with Business Applications Cloud System Management Track: Approved Applied Coursework Elective ⁵ | | Major & Quantitative or Major |

| | | | | |
|----|---|---|---|---------------------------|
| 24 | Concentration Requirements | 3 | Cloud Technology Track: IT 102 Discrete Structures OR MATH 125 Discrete Mathematics Cloud System Management Track: Approved Applied Coursework Elective ⁵ | Major |
| 25 | Concentration Requirements | 2 | General Elective (See: advisor) | General Elective |
| 26 | Core Program Requirements | 3 | BAS 300 Building Professional Competencies | Major |
| 27 | Gen Ed: Literature | 3 | Any approved Literature course ⁶ (Upper-level) | Literature |
| 28 | General Electives | 3 | Cloud Technology Track: Any General Elective course (Upper-level) Cloud System Management Track: Approved Applied Coursework Elective ⁵ | General Elective or Major |
| 29 | Concentration Requirements | 3 | Cloud Technology Track: IT 300 Modern Telecommunications Cloud System Management Track: MIS 303 Introduction to Business Information Systems | Major |
| 30 | Gen Ed: Written Communication (Upper-level) | 3 | ENGH 302 Advanced Composition | Written Comm |
| 31 | Gen Ed: Natural Science without Lab | 3 | Any approved Natural Science without Lab course ⁶ (Upper-level: See Advisor) | Nat Science |
| 32 | Gen Ed: Global Contexts | 3 | Any approved Global Contexts course ⁶ (Upper-level) | Global Contexts |
| 33 | Concentration Requirements | 3 | Cloud Technology Track: IT 341 Data Communication and Network Principles Cloud System Management Track: MIS 310 Database Management Systems | Major |
| 34 | Concentration Requirements | 3 | Cloud Technology Track: IT 343 IT Project Management Cloud System Management Track: MIS 330 Database Management Systems | Major & Writing Intensive |
| 35 | Concentration Requirements | 3 | Cloud Technology Track: IT 451 Cloud Services Management Cloud System Management Track: MIS 341 Cloud Computing Essentials | Major |
| 36 | Concentration Requirements | 3 | Cloud Technology Track: IT 461 Application Development in Cloud Cloud System Management Track: MIS 441 Cloud System Management | Major |
| 37 | Core Program Requirements | 3 | BAS 490 Introduction to Research Methods ⁷ OR BAS 492 Capstone Development ⁷ | Major |
| 38 | Concentration Requirements | 3 | Cloud Technology Track: IT 442 Cloud Infrastructure Cloud System Management Track: Approved Applied Coursework Elective ⁵ | Major |
| 39 | Concentration Requirements | 3 | Cloud Technology Track: IT 481 Cloud Security Cloud System Management Track: Approved Applied Coursework Elective ⁵ | Major |
| 40 | Gen Ed: Natural Science with Lab | 4 | Any approved Natural Science with Lab course ⁶ | Nat Science |
| 41 | Core Program Requirements/Gen Ed: Apex | 3 | BAS 491 Applied Sciences Capstone ⁷ OR BAS 493 BAS Capstone ⁷ | Apex |

B.A.S. APPLIED SCIENCE -
CLOUD COMPUTING DEGREE 120-123
TOTAL

Important Academic Information:

¹Students who complete ENG 111 after Spring 2024 will earn ENGH --- for ENG 111 and ENGH 101 for ENG 112. Students should use the "Approved Elective" to complete ENG 112. If students matriculate without an ENGH 101 equivalent complete with a C or higher, ENGH 101 will be required in the first semester at Mason.

²Students must take ITN 100 and ITE 221 in order to receive credit for IT 105.

³MTH 161 is intended to prepare students in the Cloud Technology track to take MATH 108 Introductory Calculus with Business Applications at Mason. If students select a different math course to fulfill this AAS requirement, they will subsequently need to meet the MATH 108 prerequisite through either a successful math placement test score or successful completion of MATH 008. If students complete MTH 261 at NOVA, it will fulfill the MATH 108 requirement.

⁴Students with a conferred AAS degree and grades of C or higher in ITP 120 or ITP 150 will be granted substitutions for IT 106 or IT 109, respectively. These substitutions are available to BAS students only and will be processed by the BAS advisor upon matriculation to Mason.

⁵For approved applied coursework elective list, see Cloud System Management area requirements here: <https://catalog.gmu.edu/colleges-schools/interdisciplinary-programs-courses/applied-science-bas/#ccg> .

⁶For approved Mason Core courses, please visit - <https://catalog.gmu.edu/mason-core/> .

⁷Students must select either BAS 490 and BAS 491 or BAS 492 and BAS 493.

Additional General Notes & Resources:

- To graduate in the BAS with a Cloud Computing concentration, students must have a C or better in their major core and concentration courses.☐
- If English is not your first language or you have completed ESL coursework, you must complete ENG 111 and ENG 112 prior to matriculating to George Mason University to meet the English Language Proficiency requirement.
- For academic policies and procedures, please see Mason catalog - <https://catalog.gmu.edu/policies/>
- Students seeking a bachelor's degree must apply at least 45 credits of upper-level courses (numbered 300 or above) toward graduation.