Course Name	Faculty Qualifications Needed	Related Disciplines	Acceptable Alternative Qualifications
COMP 1210 Introduction to Computing	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Systems, Computer Engineering, Software Engineering, Information Technology	Acceptable alternative qualifications include substantial professional experience in computing or IT systems, including industry certifications (e.g., CompTIA A+, Microsoft Certified Educator, or Google IT Support Professional Certificate), hands-on experience with software applications, and demonstrated competence in teaching basic computing concepts. Publications, conference presentations, or technical training related to introductory computer literacy may also be considered.
COMP 1500 Introduction to Computer Science	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Software Engineering, Electrical and Computer Engineering	Acceptable alternative qualifications include substantial professional experience in computer science or programming, including demonstrated expertise in computer architecture, algorithms, and introductory programming. Relevant industry certifications (e.g., Oracle Certified Associate, Microsoft Technology Associate, CompTIA IT Fundamentals+) and scholarly work such as published textbooks, peer-reviewed articles, or conference presentations on computer science fundamentals may also be considered.
COMP 2140 Computer Programming I	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Computer Engineering, Software Engineering	Acceptable alternative qualifications include substantial professional experience in software development or computer programming, including proficiency in languages such as C, C++, Java, or Python. Relevant professional certifications (e.g., Oracle Certified Java Programmer, Microsoft Certified: Azure Developer Associate) and evidence of instructional experience, curriculum development, or scholarly publications related to introductory programming may also be considered.
COMP 2240 Computer Programming II	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Engineering, Information Technology, Software Engineering	Acceptable alternative qualifications include substantial professional experience in object-oriented programming and software development, including proficiency in languages such as C++, Java, or Python, and real-world application of concepts like inheritance, polymorphism, and exception handling. Relevant industry certifications (e.g., Oracle Certified Professional Java Programmer, Microsoft Certified: C++ Developer) and notable contributions such as publications, software tools, or technical training experience in programming and object-oriented design will also be considered.
COMP 2400 Computer Organization	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Electrical Engineering, Information Technology, Computer Engineering, Software Engineering	Acceptable alternative qualifications include substantial professional experience in computer architecture or hardware systems, including expertise in digital logic design, assembly language, microarchitecture, and instruction set architecture. Relevant industry certifications (e.g., CompTIA Server+, Certified Hardware Technician) and scholarly work such as technical publications, instructional materials, or hands-on hardware development projects will also be considered.
COMP 2600 Assembly Language	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Electrical and Computer Engineering, Computer Engineering, Data Science	Acceptable alternative qualifications include substantial professional experience in low-level programming, embedded systems, or systems programming. Demonstrated expertise in assembly language, compiler design, and processor-memory interactions is essential. Relevant certifications (e.g., ARM Accredited Engineer, Embedded Systems Certification) and scholarly work such as instructional publications, technical manuals, or industry presentations in systems-level programming may also be considered.
COMP 2630 Selected Programming Languages	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Programming Languages, Software Engineering	Acceptable alternative qualifications include substantial professional experience in software development, particularly in one or more of the programming languages listed (e.g., Python, C, Visual Basic, Prolog, Unix Shell). Recognized certifications (e.g., Microsoft Certified: Azure Developer, Python Institute PCEP/PCAP), technical publications, or demonstrable teaching/training experience in multiple programming languages may also qualify under alternative credentials.

COMP 3000 Computer Programming for non-CS majors	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Systems, Data Science, Software Engineering, Computer Engineering	Acceptable alternative qualifications include substantial professional experience in computer programming or software development, especially in object-oriented programming. Recognized industry certifications (e.g., Oracle Certified Java Programmer, Microsoft Certified: C# Developer), experience teaching programming to non-CS audiences, or significant applied projects involving algorithm development and programming for interdisciplinary applications may also be considered.
COMP 3030 Windows Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Electrical Engineering, Software Engineering, Computer Engineering	Acceptable alternative qualifications include extensive professional experience in Windows application development and web programming using event-driven paradigms. Recognized certifications such as Microsoft Certified: Azure Developer Associate or Microsoft Certified: .NET Developer, as well as substantial experience with GUI frameworks, .NET technologies, and database-driven application development, will also be considered. Documented contributions such as software tools, applications, or instructional content in related fields may serve as additional evidence.
COMP 3040 Data Structures	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Information Systems, Computer Engineering	Acceptable alternative qualifications include significant professional experience in software development or algorithm design with emphasis on data structure implementation and analysis. Recognized industry certifications (e.g., Oracle Certified Java Programmer, Microsoft Certified: Data Analyst Associate) or documented contributions such as technical publications, software libraries, or development of educational resources in data structures and algorithms may also qualify.
COMP 3050 Programming Languages	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Computational Science, Computer Engineering	Acceptable alternative qualifications include substantial professional experience in software development, particularly in multi-language environments, language design, or compiler construction. Additional qualifications may include contributions such as open-source language development, authorship of programming language tutorials or technical documentation, or industry-recognized certifications in language-specific platforms (e.g., Python Institute Certifications, Java SE Developer).
COMP 3110 Java Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Engineering, Information Technology, Software Engineering, Computational Science	Acceptable alternative qualifications include substantial professional experience in Java development or object-oriented programming, including contributions to enterprise-level Java applications or open-source Java projects. Industry-recognized certifications such as Oracle Certified Professional: Java SE Programmer, combined with documented experience in team-based software development and system implementation, will also be considered.
COMP 3112/3113 Introduction to Bioinformatics	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Biomedical Informatics, Molecular Biology, Data Science, Bioinformatics, Computational Biology	Acceptable alternative qualifications include substantial interdisciplinary experience in applying computational methods to biological data, including professional or research experience in sequence analysis, genome annotation, or biological database design. Relevant certifications (e.g., Coursera Bioinformatics Specialization, NIH Bioinformatics Training) and peer-reviewed publications or presentations in the field of bioinformatics or computational biology will also be considered.
COMP 3120 C++ Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Programming Languages, Software Engineering, Computational Science	Acceptable alternative qualifications include substantial professional experience in C++ programming and software development, including object-oriented programming, memory management, and system-level development. Industry-recognized certifications (e.g., C++ Institute certifications), open-source contributions, or published work in the field of C++ development may also be considered.
COMP 3130 C Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Programming Languages, Information Technology, Software Engineering, Computer Engineering	Acceptable alternative qualifications include significant professional experience in C programming, algorithm design, and systems development. Industry-recognized certifications in C or systems programming, contributions to open-source C projects, or authorship of technical publications or instructional material in the C language or algorithm implementation are also considered qualifying.

COMP 3140 Python Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Programming Languages, Software Engineering, Computational Science	Acceptable alternative qualifications include substantial professional experience in Python programming, software development, or instructional experience using Python in academic or industry settings. Relevant professional certifications (e.g., PCEP – Certified Entry-Level Python Programmer, PCAP – Certified Associate in Python Programming), published instructional content, contributions to open-source Python projects, or technical presentations at conferences or workshops will also be considered.
COMP 3150 COBOL Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Software Engineering, Information Systems, Computer Engineering	Acceptable alternative qualifications include substantial professional experience in COBOL programming or legacy business application systems, including development or maintenance of enterprise-level software. Documented experience in teaching COBOL or related mainframe languages, professional certifications in enterprise systems, or contributions to COBOL-based systems in government or corporate sectors will also be considered.
COMP 3170 Applied Operating Systems	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Software Engineering, Computer Engineering,	Acceptable alternative qualifications include substantial professional experience with operating systems such as Linux, Unix, Mac OS, or Solaris. This may include system administration, kernel-level development, security configuration, or application deployment on those platforms. Relevant industry certifications (e.g., CompTIA Linux+, Red Hat Certified System Administrator (RHCSA), or Apple Certified Support Professional) and notable contributions to open-source projects, published work, or professional training in operating system technologies will also be considered.
COMP 3185 Cooperative Education	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Computer Information Systems, Information Technology, Computational Science	Acceptable alternative qualifications include significant professional or academic experience in supervising internships, cooperative education, or applied learning in computing fields. Experience coordinating industry-academic partnerships, mentoring students in applied computer science settings, or overseeing capstone or project-based courses will also be considered. Documented success in guiding student learning in real-world environments or contributions to cooperative education program development may serve as additional evidence.
COMP 3186 Cooperative Education	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Computer Information Systems, Information Technology, Computational Science	Acceptable alternative qualifications include significant professional or academic experience in supervising internships, cooperative education, or applied learning in computing fields. Experience coordinating industry-academic partnerships, mentoring students in applied computer science settings, or overseeing capstone or project-based courses will also be considered. Documented success in guiding student learning in real-world environments or contributions to cooperative education program development may serve as additional evidence.
COMP 3187 Cooperative Education	Earned Master's or Doctorate degree in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Computer Information Systems, Computer Science, Information Technology, Computational Science	Acceptable alternative qualifications include significant professional or academic experience in supervising internships, cooperative education, or applied learning in computing fields. Experience coordinating industry-academic partnerships, mentoring students in applied computer science settings, or overseeing capstone or project-based courses will also be considered. Documented success in guiding student learning in real-world environments or contributions to cooperative education program development may serve as additional evidence.
COMP 3188 Cooperative Education	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Computer Information Systems, Information Technology, Computational Science	Acceptable alternative qualifications include significant professional or academic experience in supervising internships, cooperative education, or applied learning in computing fields. Experience coordinating industry-academic partnerships, mentoring students in applied computer science settings, or overseeing capstone or project-based courses will also be considered. Documented success in guiding student learning in real-world environments or contributions to cooperative education program development may serve as additional evidence.

COMP 3190 Ethics and Professionalism in Computing	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Systems, Cybersecurity, Philosophy (with a focus on ethics in technology), Information Technology, Software Engineering	Acceptable alternative qualifications include substantial professional or academic experience in computing ethics, cybersecurity policy, or professional standards in technology fields. Experience teaching or developing curriculum in computing ethics, holding certifications such as Certified Information Systems Security Professional (CISSP), or demonstrated contributions to ethical practices in the tech industry (e.g., policy development, technical writing, or public presentations) may also qualify.
COMP 3010 Discrete Mathematics	Earned Master's or Doctorate degree in Computer Science or Mathematics, in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Applied/Advanced Mathematics, Theoretical Computer Science, Computer Engineering	Acceptable alternative qualifications include substantial academic or professional experience in teaching discrete mathematics, logic, or theoretical foundations of computer science. Contributions such as peer-reviewed publications, curriculum development, or instructional content in areas like graph theory, combinatorics, or abstract algebra may also qualify. Relevant graduate coursework in discrete structures or algorithmic theory may serve as additional supporting evidence.
COMP 3230 Information Systems Analysis	Earned Master's or Doctorate degree in the teaching Computer Science discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Business Information Systems, Information Systems, Computer Science, Software Engineering	Acceptable alternative qualifications include extensive professional experience in information systems analysis, systems design, or enterprise IT solutions. Experience with system development life cycles (SDLC), requirements analysis, prototyping, and system integration is highly relevant. Certifications such as Certified Business Analysis Professional (CBAP), PMI Professional in Business Analysis (PMI-PBA), or similar, as well as documented contributions to large-scale information system projects or instructional content in systems analysis, may also be considered.
COMP 3300 Software Engineering	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Computer Engineering, Software Engineering	Acceptable alternative qualifications include substantial professional experience in software engineering, including participation in or leadership of full life-cycle software development projects. Relevant experience may include system architecture, agile methodologies, project management, and collaborative software design. Industry-recognized certifications such as Certified Software Development Professional (CSDP), Certified ScrumMaster (CSM), or Project Management Professional (PMP), along with documented instructional materials or contributions to large-scale software projects, will also be considered.
COMP 3310 Data Communications and Computer Networks	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Electrical Engineering, Network Engineering, Computer Engineering, Information Technology	Acceptable alternative qualifications include substantial professional experience in computer networking, data communications, or network security. This may include roles involving network design, protocol development, or systems administration. Industry-recognized certifications such as Cisco Certified Network Associate (CCNA), CompTIA Network+, or Certified Information Systems Security Professional (CISSP), along with documented instructional experience or technical publications in networking, may also be considered.
COMP 3410 Advanced Computer Organization	Earned Master's or Doctorate degree in Computer Engineering in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Embedded Systems, Digital Systems Design, Computer Science, Electrical Engineering	Acceptable alternative qualifications include substantial professional or academic experience in computer architecture, processor design, or embedded systems. Relevant expertise may include work with RISC/CISC architectures, pipelined processor design, or memory hierarchy systems. Certifications such as Arm Accredited Engineer or other microprocessor-related credentials, as well as contributions to hardware design projects, instructional content, or peer-reviewed publications in advanced computer systems, will also be considered.
COMP 3500 Digital Logic Design	Earned Master's or Doctorate degree in Computer Engineering in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Embedded Systems, Electrical Engineering, Computer Science	Acceptable alternative qualifications include substantial academic or professional experience in digital systems design, logic circuit development, or embedded hardware implementation. Relevant experience may include design and simulation of combinational and sequential circuits, FPGA or ASIC design, or lab instruction in digital logic. Certifications such as Certified LabVIEW Developer or hands-on experience with hardware description languages (e.g., VHDL, Verilog) and documented instructional materials or design projects in digital logic will also be considered.

COMP 3560 Introduction to Theory of Computing	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Applied Mathematics, Computational Theory, Mathematics, Computer Engineering	Acceptable alternative qualifications include significant academic or research experience in automata theory, formal languages, computability, or computational complexity. Relevant qualifications may also include peer-reviewed publications, curriculum development in theoretical computing, or graduate coursework in discrete mathematics, algorithms, or computation theory. Contributions to academic conferences, textbooks, or educational resources in the theory of computing will also be considered.
COMP 3650 Microprocessors	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Embedded Systems, Software Engineering, Computer Engineering, Electrical Engineering	Acceptable alternative qualifications include substantial academic or professional experience in microprocessor and microcontroller systems, including assembly language programming, hardware interfacing, and embedded application design. Experience with processor architectures, memory systems, and I/O interfacing is highly relevant. Certifications such as Arm Accredited Engineer or documented work in embedded systems design, instructional content development, or contributions to processor-based hardware projects may also be considered.
COMP 3710 Relational Databases	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Data Science, Information Systems, Software Engineering	Acceptable alternative qualifications include substantial professional experience in relational database design, development, and administration. Relevant expertise may include SQL programming, database normalization, data modeling, and working with relational database management systems such as MySQL, Oracle, SQL Server, or PostgreSQL. Certifications such as Oracle Database SQL Certified Associate, Microsoft Certified: Azure Database Administrator, or equivalent, as well as contributions to database-driven applications or instructional content, may also be considered.
COMP 3900 Numerical Analysis	Earned Master's or Doctorate degree in Computer Science or Mathematics in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Applied/Advanced Mathematics, Computational Science, numerical methods, scientific computing, Computer Engineering	Acceptable alternative qualifications include substantial academic or professional experience in numerical computing, scientific programming, or applied algorithm development. Relevant experience may include work with numerical libraries, scientific software, or developing algorithms for mathematical modeling, simulation, or data analysis. Contributions such as peer-reviewed publications, open-source numerical tools, or instructional content in numerical methods or scientific computing will also be considered.
COMP 4100 Operating Systems	Earned Master's or Doctorate degree in Computer Science, Computer Engineering, in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Information Technology	Acceptable alternative qualifications include substantial professional or academic experience in operating systems design, administration, or instruction. Relevant expertise may include process scheduling, memory management, inter-process communication, file systems, and device I/O. Experience with Unix/Linux or Mac OS environments, system-level programming, or kernel development is particularly valuable. Certifications such as Red Hat Certified Engineer (RHCE), CompTIA Linux+, or Apple Certified Support Professional, along with contributions to instructional materials or open-source OS projects, will also be considered.
COMP 4200 Compiler Construction	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Programming Languages, Computer Engineering, Computational Science	Acceptable alternative qualifications include significant academic or professional experience in compiler design, programming language theory, or systems programming. Relevant expertise may include work on lexical analyzers, parsers, interpreters, or code generators. Contributions to open-source compiler projects, publications in language processing or formal methods, or experience teaching courses on language design or implementation may also be considered. Familiarity with tools like Lex, Yacc, LLVM, or ANTLR is a strong plus.
COMP 4280 Web-based Application Development	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Web Technologies, Human-Computer Interaction, Software Engineering, Information Technology	Acceptable alternative qualifications include substantial professional experience in web development, including both front-end and back-end technologies. Relevant experience may include client-side scripting (e.g., JavaScript), server-side development (e.g., ASP.NET, PHP), and use of web standards such as HTML, CSS, and XML. Industry certifications such as Microsoft Certified: Web Applications Developer, or documented contributions to web applications, open-source web projects, or instructional materials in web programming, may also be considered.

COMP 4400 Artificial Intelligence	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Engineering, Embedded Systems, Mechatronics, Artificial Intelligence, Robotics	Acceptable alternative qualifications include substantial academic or professional experience in artificial intelligence, robotics, or embedded system development. Relevant experience may include hands-on work with mobile robotics, autonomous systems, or AI algorithms such as path planning, localization, and sensor integration. Certifications in robotics platforms (e.g., ROS, Arduino, LEGO Mindstorms), documented instructional materials, contributions to open-source robotics projects, or *peer-reviewed publications* in AI or robotics fields will also be considered.
COMP 4440 Mobile Robotics	Earned Master's or Doctorate degree in Computer Science or Robotics in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Mechatronics, Electrical Engineering, Embedded Systems, Computer Engineering,	Acceptable alternative qualifications include substantial academic or industry experience in mobile robotics, including robot hardware design, embedded programming, sensor integration, and autonomous navigation algorithms. Experience with robotics platforms such as LEGO Mindstorms, Arduino, or ROS, and hands-on teaching or lab-based instruction in robotics is highly relevant. Certifications in robotics or embedded systems, contributions to robotics competitions or educational tools, and *peer-reviewed publications* in robotics or related fields will also be considered.
COMP 4450 Computer Network Architecture	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Electrical Engineering, Computer Engineering, Network Engineer	Acceptable alternative qualifications include substantial professional experience in network design, network infrastructure, or telecommunications systems. Relevant expertise may include work with network devices (e.g., routers, switches, bridges), network protocols, LAN/WAN architecture, and wireless or mobile networking. Industry-recognized certifications such as Cisco Certified Network Professional (CCNP), CompTIA Network+, or similar credentials, as well as *peer-reviewed publications* or instructional content in network systems or architectures, will also be considered.
COMP 4500 Senior Project I	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Computer Engineering, Software Engineering, Software Development	Acceptable alternative qualifications include extensive academic or industry experience in managing or mentoring team-based software development projects. Relevant experience may include system design, implementation, technical writing, and project management. Faculty with experience advising capstone or senior design courses, leading collaborative software projects, or mentoring students in applied computing contexts are highly qualified. Contributions such as *peer-reviewed publications* , industry case studies, or development of instructional resources in team-based software engineering will also be considered.
COMP 4510 Senior Project II	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Computer Engineering, Software Engineering, Software Development	Acceptable alternative qualifications include extensive academic or industry experience in managing or mentoring team-based software development projects. Relevant experience may include system design, implementation, technical writing, and project management. Faculty with experience advising capstone or senior design courses, leading collaborative software projects, or mentoring students in applied computing contexts are highly qualified. Contributions such as *peer-reviewed publications* , industry case studies, or development of instructional resources in team-based software engineering will also be considered.
COMP 4550 Computer Network Protocols	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Electrical Engineering, Computer Engineering, Network Engineering	Acceptable alternative qualifications include substantial academic or industry experience in network protocol design, implementation, or analysis. Relevant expertise may include hands-on work with flow control mechanisms, routing protocols, transport layers, encryption methods, and wireless/mobile communication standards. Certifications such as Cisco Certified Network Professional (CCNP), Certified Information Systems Security Professional (CISSP), or similar are also valuable. Contributions such as *peer-reviewed publications* , open-source protocol stack development, or instructional materials on networking protocols will be considered as well.

COMP 4600 Game Programming	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Graphics, Human-Computer Interaction, Multimedia Systems, Software Engineering, Game Development, Computer Programming	Acceptable alternative qualifications include substantial professional experience in game development, interactive software design, or multimedia application programming. Relevant experience may involve game engines (e.g., Unity, Unreal), graphics programming, physics simulation, and cross-platform development for desktop and mobile devices. Certifications in game development technologies or platforms, contributions to commercial or indie games, or *peer-reviewed publications* and instructional materials in game design or educational gaming will also be considered.
COMP 4610 Object Oriented and Hybrid Database Systems	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Software Engineering, Data Science, Computer Engineering	Acceptable alternative qualifications include substantial academic or industry experience in database systems, particularly in object-oriented and object-relational database models. Relevant expertise may include experience with object-oriented data modeling, database architecture, or hybrid DBMS platforms. Industry certifications such as Oracle Certified Professional, experience in developing or managing advanced database applications, instructional content creation, or *peer-reviewed publications* in object-oriented or hybrid database systems will also be considered.
COMP 4700 Algorithms	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Applied/Advanced Mathematics, Software Engineering, Computer Engineering	Acceptable alternative qualifications include significant academic or professional experience in algorithm design, analysis, and optimization. Relevant experience may include implementation of core algorithms, complexity analysis, and development of advanced data structures. Contributions such as *peer-reviewed publications* , technical reports, open-source algorithm libraries, or instructional content in algorithm theory and applications will also be considered.
COMP 4720 Cryptography and Computer Security	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Engineering, Cybersecurity, Information Security	Acceptable alternative qualifications include substantial academic or professional experience in cryptography, cybersecurity, or information assurance. Relevant expertise may include encryption algorithms, secure system design, digital signatures, and authentication protocols. Industry-recognized certifications such as Certified Information Systems Security Professional (CISSP), Certified Ethical Hacker (CEH), or GIAC Security Essentials (GSEC), as well as *peer-reviewed publications* or instructional materials in cryptography or computer security, will also be considered.
COMP 4750 Computer Network Management	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Engineering, Cybersecurity, Information Technology, Network Engineering	Acceptable alternative qualifications include substantial academic or professional experience in computer network administration, monitoring, and security. Relevant expertise may include network infrastructure management, fault tolerance, performance analysis, and the use of network management tools and protocols. Industry-recognized certifications such as Cisco Certified Network Associate (CCNA), CompTIA Network+, or Certified Information Systems Auditor (CISA), along with *peer-reviewed publications* or instructional content in network management or reliability engineering, will also be considered.
COMP 4800 Computer Graphics	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Computer Engineering, Software Engineering,	Acceptable alternative qualifications include substantial academic or professional experience in computer graphics, graphical software development, or visualization. Relevant expertise may include experience with transformation algorithms, rendering techniques, user interaction models, and image processing. Proficiency with graphics APIs (e.g., OpenGL, DirectX), development environments, or GPU programming, along with *peer-reviewed publications* or instructional materials in computer graphics or visualization, will also be considered.
COMP 4820 Introduction to Bioinformatics Computing	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Biomedical Informatics, Molecular Biology, Data Science, Bioinformatics, Computational Biology	Acceptable alternative qualifications include substantial academic or professional experience in bioinformatics, including biological data analysis, computational algorithms for genomics or proteomics, and programming for biological applications. Relevant expertise may include experience with biological databases, sequence analysis tools, or visualization frameworks. Contributions such as *peer-reviewed publications* , open-source bioinformatics tools, or instructional materials in computational biology or bioinformatics computing will also be considered.

COMP 4910 Special Topics	Earned Master's or Doctorate degree in Computer Science, Computer Engineering in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Software Engineering	Acceptable alternative qualifications include substantial academic or professional experience relevant to the specific emerging topic being taught. Depending on the subject area, this may include applied research, development experience, or expertise in rapidly evolving technologies. Evidence such as *peer-reviewed publications* , technical reports, participation in innovation-focused projects, or instructional content related to the special topic will also be considered.
COMP 4850 Data Visualization	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Human-Computer Interaction, Information Visualization, Statistics, Data Science, Information Systems	Acceptable alternative qualifications include substantial academic or industry experience in data visualization, data analytics, or visual interface design. Relevant expertise may include the use of visualization libraries and tools (e.g., D3.js, Tableau, matplotlib), information design, and experience with communicating complex datasets through visual means. Certifications in data visualization or analytics, as well as *peer-reviewed publications* or instructional materials in visual analytics or graphical representation of data, will also be considered.
COMP 4840 Machine Learning	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Statistics, Computational Science, Data Science, Artificial Intelligence	Acceptable alternative qualifications include substantial academic or professional experience in machine learning, including the development and application of predictive models, supervised and unsupervised learning techniques, and data preprocessing methods. Relevant experience may include hands-on work with ML frameworks (e.g., scikit-learn, TensorFlow, PyTorch), real-world deployments, or development of case-based learning modules. *Peer-reviewed publications* , open-source ML tools, or instructional materials in machine learning or data-driven modeling will also be considered.
COMP 4830 Introduction to Data Science	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Data Science, Information Systems, Applied/Advanced Mathematics, Statistics	Acceptable alternative qualifications include substantial academic or industry experience in data science, including data analysis, machine learning, or large-scale data processing. Relevant expertise may include hands-on work with Python-based data science libraries (e.g., NumPy, Pandas, scikit-learn), statistical modeling, and working with relational and non-relational databases. Industry certifications in data science or analytics, as well as *peer-reviewed publications* , instructional materials, or contributions to open-source data science projects, will also be considered.
COMP 3800 Mathematics for Data Science	Earned Master's or Doctorate degree in Computer Science or Mathematics, in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Applied/Advanced Mathematics, Data Science, Statistics	Acceptable alternative qualifications include substantial academic or professional experience in the mathematical foundations of data science, including probability, statistics, linear algebra, and graph theory. Relevant experience may include application of these concepts in data-driven modeling, algorithm development, or teaching quantitative reasoning for data science. *Peer-reviewed publications* , instructional content, or curriculum development in mathematical modeling or quantitative analytics will also be considered.
COMP 4760 Distributed Algorithm Design	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Distributed Systems, Data Science, Computer Engineering	Acceptable alternative qualifications include substantial academic or professional experience in distributed systems, algorithm design, or big data processing. Relevant expertise may include work with message-passing systems, shared memory models, fault-tolerant architectures, or distributed data analytics. Experience with tools such as Hadoop, Spark, or MPI is also relevant. *Peer-reviewed publications* , instructional content, or contributions to distributed computing frameworks and project-based learning in distributed algorithms will also be considered.
COMP 4770 Network Programming and Information Assurance	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Network Engineering, Computer Engineering, Cybersecurity	Acceptable alternative qualifications include substantial academic or professional experience in network programming, secure communications, or information assurance. Relevant experience may include socket programming (e.g., Winsock), development of client-server and peer-to-peer systems, and implementation of secure network protocols. Industry-recognized certifications such as Certified Information Systems Security Professional (CISSP), CompTIA Security+, or relevant experience in building secure, distributed applications will be considered. *Peer-reviewed publications* , instructional content, or open-source contributions in network programming or information security are also acceptable.

COMP 4780 Operating System Security	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Network Engineering, Computer Engineering, Cybersecurity	Acceptable alternative qualifications include substantial academic or professional experience in operating system internals and security, including access control, memory protection, and secure process communication. Experience with OS-level threat mitigation strategies, kernel security, or secure OS configurations is especially relevant. Industry-recognized certifications such as CISSP, GIAC Security Essentials (GSEC), or CompTIA Linux+ Security are also applicable. *Peer-reviewed publications* , instructional content, or contributions to secure OS tools or practices will also be considered.
COMP 4900 Special Topics	Earned Master's or Doctorate degree in Computer Science, Computer Engineering in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline.	Information Technology, Software Engineering	Acceptable alternative qualifications include substantial academic or professional experience relevant to the specific emerging topic being taught. Depending on the focus area, qualifications may include advanced development or research experience, industry expertise, or instructional contributions in new and evolving computing domains. *Peer-reviewed publications* , curriculum development, or public presentations on cutting-edge computing topics will also be considered.
COMP 4520 Introduction to High Performance Computing	Earned Master's or Doctorate degree in Computer Science in the teaching discipline; or Master's or Doctorate degree with a concentration in the teaching discipline with at least 18 graduate semester hours in the teaching discipline	High-Performance Computing (HPC), Parallel and Distributed Systems, Computer Engineering, Computational Science	Acceptable alternative qualifications include substantial academic or industry experience in high performance computing, including parallel programming, multi-core and GPU computing, distributed memory systems, and cluster computing. Familiarity with HPC frameworks (e.g., MPI, OpenMP, CUDA), and resource management strategies is highly relevant. *Peer-reviewed publications* , instructional content, or contributions to large-scale computing projects or HPC curriculum development will also be considered.