Bachelor of Science - Computer Network and System Administration 127 Academic Year 2018-19 - Recommended Course Sequence Total Credits **Technical Electives** (12 credits required) Semester 7 Semester 8 Semester 1 Semester 2 Semester 3 Semester 4 Semester 5 Semester 6 ACC 2000 - 3 [f,s] Accounting Principles I **SPRING SPRING FALL FALL SPRING FALL SPRING FALL** BUS 2200 - 3 [f,s] 16-17 Cr 18 Cr 15 Cr 14-15 Cr 16 Cr 14 Cr 17 Cr 16 Cr **Business Law** EET 3373 - 3 (EET 1411 or EET 2411) [f] Intro to Programmable Controllers EET 4141 - 4 (EET 2141 or CS 1121) [f] **UN 1025 SAT 3611 SAT 3343** Microcontroller Interfacing Critical **SAT 4411** Global Issues Social **UN 1015 Technical** Infrastructure Network and Creative Responsibility & **Data Center** EET 4253 - 3 (EET 1411) [s] (3) [f,s,su] Composition Elective Service Administration LabVIEW Programming for Data Thinking Engineering --or-- Modern Ethical Reasoning (3) [f,s,su] (3) Acquisition Administration (3) *Language (3)(3) [s](3) [f,su] (4) [s] Option ' ENT 1960 - 1 (Perm. of Instructor) [f,s,su] Enterprise Orientation-Spring ENT 2000 level **SAT 4880 SAT 4480** ENT 3000 level (except 3964) Senior Project II ENT 4000 level (except 4950, 4960) Senior Project **SAT 1610** CS 1111 **SAT 3310** (3) [f,s]SAT 2343 **SAT 3210** (3) [f,s]**SAT 2511** MA 3203 - 3 (MA 2320) [s,su] Computer and ntroduction to Scripting for --or--Microsoft System Database Network --or--Introduction to Cryptography Operating Programming Administration ENT 3960 (1) Administration Administration Managemen ENT3950 (1) Systems in C/C++ MGT 3800 - 3 [f] & Automation & ENT 4960 (2) & ENT 4950 (2)* (4) [f,su] (4) [s,su] (3) [f,su] Architecture Entrepreneurship (3) [f] (3) [s][f,s] (3)[s]MGT 4600 - 3 [s] Management of Technology & Innovation UN 1015 & UN 1025 OSM 3000 - 3 ((MA 1160 or MA 1161) Gen Ed Science SAT 1700 **SAT 3820** & MA 2720) [f,s,su] SAT 2711 Elective (3) **SAT 3812** Cyber Ethics **EET 1411** Operations & Supply Chain Management Wireless HU 3120 Free Linux System Basic (Non-Physics) Cyber (3) [f] System Technical & Elective SAT 3002 - 3 [f] Administration from the Security I Electronics Professional (2-3)Application Programming Introduction Administration (4) [f,su] STEM Science (4) [f,s,su] (3) [f,su] (4) [s,su] Communication SAT 4240 - 3 (SAT 2511 & SAT 2711 Course List * (3) [f,s,su] & SAT3343) [On Demand] MA 1160 Voice over IP Engineering Calculus with SAT 4310 - 3 (SAT 3002 or SAT 3310) Technology I Social OSM 4300 [On Demand] Communication (4) [f] PH 1140 **EET 2411** SAT 3200 and Behavioral Advanced Scripting Programming Project **EET 2413** /Composition --or-- MA 1161 & PH 1141 Digital Storage Area Sciences Management Data (3) *SAT 4343 - 3 (SAT 3343) [s] Calculus Plus Applied College Networking (3) *Electronics (3) [f,s,su] Communications Network Engineering w/ Technology Physics I & Lab (3) [f,s](3) [s] (3) [f,su] (4) [s] SAT 4600 - 3 (SAT 3002 or SAT 3310) (5) [f,s,su] **Tech Elective Tech Elective Tech Elective** Web Application Development G (3) G (3) (3) G SAT 4812 - 3 (SAT 3812) [s] or BUS Elective or BUS Elective or BUS 2200 Cyber Security II **SAT 3900** (3) refer to audit (3) refer to audit New Tech Seminar **Business Law** MA 2320 MA 2720 SAT 4816 - 3 (SAT 3812) [f] HASS Elective **Humanities** (1) [f] M (3) [f,s] М Digital Forensics М (Course from Elementary Statistical & SAT 3901 and Fine Arts or SAT 4240 or SAT 4310 or SAT 4343 Any List) inear Algebra Methods Becoming Human-SAT 4996 - 1-3 [On Demand] (3) *VoIP Eng. Adv Script Prog Network Eng. Special Topics in Computer Network (3) *(2) [f,s,su] (4) [f,s,su] Comm & Tech Systems Administration N (3) ** Prere N (3) ** Prere Improv Seminar N (3) [s] Prereq (1) [f] or MA 3203 SAT 4997 - 1-3 [On Demand] or SAT 4816 or SAT 4812 CO-CURR CO-CURR CO-CURR CO-CURR Introduction to Independent Study in Computer **Digital Forensics** Cyber Security II Network Systems Administration 1/2 UNIT ½ UNIT CO-CURR Cryptography ½ UNIT ½ UNIT (3) [f] Prer (3) [s] Pre S (3) [s,su] Pfer ½ UNIT SAT 4998 - 1-6 [On Demand] Undergraduate Research in Computer CO-CURR Technical Emphasis Network Systems Administration (color reference) 1/2 UNIT * _______ SAT 5000 level - 1-3 * See Notes [] М IT Management Concurrent Prerequisite Prerequisite Course Credits Semester Offered Network Engineering - ** On Demand (Course must be completed (A prerequisite course that may be on Back

prior to enrollment)

taken concurrently)

Cyber Security

May 2018

- General Education Requirements: 24 total credits. Required courses: UN 1015-Composition (3 credits); UN1025-Global Issues (3 credits); Critical and Creative Thinking (3 credits); Social Responsibility & Ethical Reasoning (3 credits); and 12 HASS credits. Approved lists are available in EERC 423 and linked on the School of Technology's "Advising" web page. http://www.mtu.edu/registrar/pdfs/core-and-hass-list-18-19-v2.pdf
- 2. <u>UN 1025 Global Issues Language Option</u>: 3 credits of 3000-level or higher modern language may be substituted directly for UN 1025. Any students with previous language experience in Spanish, French, German, or Mandarin must take the Modern Language Online Placement Test.
- 3. <u>HASS (Humanities, Arts, & Social Sciences)</u>: 12 total credits that include a minimum of 3 credits each in: Communication/Composition, Humanities/Fine Arts, and Social & Behavioral Sciences. Approved lists are available in EERC 423 and are linked on the School of Technology's "Advising" web page. http://www.mtu.edu/registrar/pdfs/core-and-hass-list-18-19-v2.pdf Six (6) credits must be 3000 level or higher (does not include HU 3120). HU 3120 is not a HASS course for School of Technology students, but still is a degree requirement. No more than 3 credits may be used from the HASS Restricted List. All 3000-level or higher HASS courses require UN 1015 and UN 1025 as prerequisites.
- 4. Science Elective (STEM): http://www.mtu.edu/registrar/pdfs/stem-requirements18-19.pdf
- 5. <u>Math</u>: Students are placed into an initial math course based on required assessment using the ALEKS software program, or a math placement exam score (AP, IB, CLEP). MA 1160 (4 credits) or MA 1161 (5 credits) satisfy the Calculus I requirement. MA 2320, MA 2321, or MA 2330 are equivalent Linear Algebra courses. MA 2710, MA 2720, and MA 3710 are all approved Statistics courses.
- 6. <u>Free Electives</u>: Any Michigan Tech course(s) or approved transfer course(s) that are 1000-level or above, and are not duplicated or equivalent courses.
- 7. <u>Co-curricular Activities</u>: Mainly physical education courses with some additions. Three units (or six half units) are required for graduation. These units will be included as earned hours and may be used to determine full-time enrollment status. These are in addition to the total credits required for the degree. A co-curricular list is available in EERC 423 and is linked on the School of Technology's "Advising" web page. These units are graded pass/fail and are not included in credit hours used for calculation of any grade point averages (cumulative or departmental).
- 8. <u>Pre-requisite</u> courses are noted by a plain arrow. The pre-requisite course must be successfully completed **prior** to taking the subsequent course.
- 9. <u>Concurrent Pre-requisites</u> are noted by a 'C' by the arrow and may be taken at the same time, although it is not necessary to take these courses together if the pre-requisite course is completed first.
- 10. <u>Co-requisite</u> courses are courses that <u>must</u> be taken together in the same semester.
- 11. <u>Transfer, Advanced Placement, or Study Abroad Courses</u> are not included in credit hours used for GPA calculations. Transfer credit is awarded for Michigan Tech equivalent course work only if a grade of 'C' or better (2.00/4.00) or equivalent is earned at a transfer institution. Study abroad credit will be awarded by International Programs and Services based on passing a course according to equivalent international standards. Advanced Placement credit is awarded according to published AP Exam score standards.