TECHNOLOGY AND ENGINEERING STUDIES 2018-2019

Please note This flowchart is not a contract.
For your contract information please see catalog

Teaching / Licensure Emphasis

Major Code:
396547

Freshman	Sophomore	Junior	Senior
1st block TES 276A Expl. Of Teaching A (F) 3.5	CEEn 112 or CFM 105 Drafting 3	TES 125 Comm Tech & Systems (F) 3	TES 255 Visual Comm. Design (W) 3
2nd block TES 276B Expl. Of Teaching B (F) .5	Math 110 College Algebra Fulfills Quantitative Reasoning GE 3	CS 142 Intro to Computer Programming 3	TES 330 Creativity, Engr & Prob. Solving (W) 3
TES 200 Woods (F- every year W-even year, Sp-odd year) 3	TES 229 Metals/Polymers (W) 3	TES 225 Electronics (F) 3	
Physical Science 3	Rel Elective 2	TES 340 Principles of Tech & Engr (F) 3	Biological Science 3
AHtg 100 3	First Year Writing 3	Tech 112 Innovation (F,W,Sp) 1	Languages of Learning (recommended STAT 121) 3
TES 291R Seminar .5	TES 291R Seminar .5	TES 291R Seminar .5	TES 291R Seminar .5
REL A 275 Book of Mormon 2	REL A 250 Christ & the Everlasting Gospel 2	REL C 225 Foundations of the Restoration 2	REL C 200 Eternal Family 2

Apply to program by December 15th:
mylink.byu.edu See Advisement for details

Junior		Senior	
SC Ed 353 Multicultural 3	CPSE 402 * Educ Students w/ Disabilities 2	SC Ed 375 Ad. Dev & Class Mgmt * 3	TES 476 Student Teaching 12
Tech Elect. 2	1st block * TES 377 Teaching Methods (W) 2	Tech Elect. 3	**All major requirements must be completed before enrollment in TES 476. student teaching.**
EngT 231 Foundations of Global Leadership Fulfills Global and Cultural Awareness or Social Science GE 3	2nd block TES 378 Practicum (W) 2	Tech Elect. 3	Technical Elective requirements and options listed on back
Civ I 3	Arts or Letters 3	Tech Elect. 3	
Advanced Writing 3	Civ II and Arts or Letters 3	Tech Elect. 3	
TES 291R Seminar .5	TES 291R Seminar .5		
Rel Elective 2	Rel Elective 2	Minor/ Elective 1	

Credit Hours: 15.5 | 16.5 | 15.5 | 14.5 | 16.5 | 14.5 | 16 | 12

Total Credit Hours: 120

G.E. Classes — **Major Classes** — **Major/G.E. Classes**

***TES 276B is a prerequisite**

Prerequisite Required

TECHNOLOGY AND ENGINEERING STUDIES (TES)

TEACHING EMPHASIS requires 14 credits of technical electives.

TECHNICAL EMPHASIS requires 34 credits of technical electives.

IMPORTANT INFORMATION

TEACHING EMPHASIS: With approval, potential elective course options not listed below include: TES classes not listed as a core requirement; courses taken within the College of Engineering and Technology (including the School of Technology); courses in the STEM fields (Science, Technology, Engineering, and Math); and courses that directly meet one or more of the 20 Technology Content Standards listed in the *Standards for Technological Literacy* (2000, 2007), (see page 210 of: https://www.iteea.org/File.aspx?id=67767). Courses used to fulfill general education requirements will not be approved as technical electives.

TES 399R TECHNICAL INTERNSHIP: TES 399R is required for Technical Emphasis students (3 credits minimum, 6 credits maximum), and optional for Teaching Emphasis students (3 credits maximum). Faculty approval required.

TES 490R INDEPENDENT RESEARCH AND DEVELOPMENT: TES 490R is an elective option for both Teaching Emphasis students and Technical Emphasis students (6 credits maximum). Faculty approval required.

TEACHING EMPHASIS STUDENTS: If you would like to teach in the Skilled and Technical Sciences areas of Automotive or Drafting, we recommend that you take the emphasis courses off campus and then transfer these hours into the program.

NOTE ABOUT TECHNICAL ELECTIVE OPTIONS: Courses listed here are potential options. Students are not guaranteed admittance to these courses. Departments and/or faculty have full discretion for courses within their departments. Students may request admittance but it is not guaranteed. Check the Course Catalog for more information about prerequisites for specific courses and entrance requirements for courses in limited-enrollment programs. See Advisement Office for details.

ELECTIVE CLASS OPTIONS FOR BOTH TEACHING EMPHASIS AND TECHNICAL EMPHASIS STUDENTS

ARCHITECTURE AND FURNITURE DESIGN			
CFM 155	3.0	CONSTRUCTION MODELING	Prerequisites Required, see course catalog
TES 400	3.0	FURNITURE DESIGN	Prerequisites Required, see course catalog
ME EN 272	3.0	ENGINEERING GRAPHICS	Instructor's consent, see course catalog
PWS 103	3.0	RESIDENTIAL LANDSCAPE DESIGN	
PWS 105	3.0	LANDSCAPE DESIGN GRAPHICS	
SFL 102	3.0	INTERIOR DESIGN	

BUSINESS AND ENTREPENEURSHIP			
ENT 101	3.0	INTRO TO ENTREPRENEURSHIP	
ENT 301	3.0	BASIC ENTREPRENEURSHIP SKILLS	
MSB 375	3.0	SOCIAL INNOVATION	
ENT 313	1.0	START-UP BOOTCAMP	

COMPUTER SCIENCE			
CS 224	3.0	INTRODUCTION TO COMPUTER SYSTEMS	Prerequisites Required, see course catalog
CS 235	3.0	DATA STRUCTURES AND ALGORITHMS	Prerequisites Required, see course catalog
CS 236	3.0	DISCRETE STRUCTURES	Prerequisites Required, see course catalog
CS 240	4.0	ADVANCED PROGRAMMING CONCEPTS	Prerequisites Required, see course catalog

CONSTRUCTION SYSTEMS			
CFM 155	3.0	CONSTRUCTION MODELING	Prerequisites Required, see course catalog
CFM 210	3.0	LIGHT STRUCTURAL SYSTEMS	Prerequisites Required, see course catalog
CFM 217	3.0	CONCRETE/MASONRY	Instructor's consent, see course catalog
CFM 241	2.0	ELECTRICAL	Instructor's consent, see course catalog
CFM 320	3.0	MECHANICAL SYSTEMS	Instructor's consent, see course catalog

ENGINEERING PREP AND ELECTRONICS			
PHSCS 140	1.0	ELECTRONICS LAB	Instructor's consent, see course catalog
PHSCS 310	3.0	PHYSICS BY INQUIRY: MECHANICS	Prerequisites Required, see course catalog
PHSCS 311	3.0	PHYSICS BY INQUIRY: ELECTRICITY	Prerequisites Required, see course catalog
PHSCS 313R	3.0	SPEC TOPICS PHSCS	Prerequisites Required, see course catalog
IT 252	3.0	COMPUTER ARCHITECTURE & ORGANIZATION	Prerequisites Required, see course catalog
MFG 130	3.0	MODERN MANUFACTURING	
ME EN 272	3.0	ENGINEERING GRAPHICS	Instructor's consent, see course catalog
MFG 220	3.0	MATERIAL REMOVAL	Prerequisites Required, see course catalog
CS 235	3.0	DATA STRUCTURES AND ALGORITHMS	Prerequisites Required, see course catalog

INFORMATION TECHNOLOGY • INFORMATION SYSTEMS			
IT 101	3.0	CORNERSTONE: INFORMATION TECHNOLOGY	
IT 210A	2.0	FUNDAMENTAL OF WEB-BASED INFORMATION TECH - A	Prerequisites Required, see course catalog
IT 210B	2.0	FUNDAMENTAL OF WEB-BASED INFORMATION TECH - B	Prerequisites Required, see course catalog
IT 252	3.0	COMPUTER ARCHITECTURE & ORGANIZATION	Prerequisites Required, see course catalog
IT 255	3.0	HUMAN-COMPITER INTERACTION	Prerequisites Required, see course catalog
IT 327	4.0	DIGITAL COMMUNICATIONS	Prerequisites Required, see course catalog
IT 344	3.0	OPERATING SYSTEMS	Prerequisites Required, see course catalog
IT 350	3.0	DATABASE PRINCIPLES & APPLICATIONS	Prerequisites Required, see course catalog
IT 347	3.0	COMPUTER NETWORKS	Prerequisites Required, see course catalog
IT 366	3.0	INFORMATION ASSURANCE AND SECURITY	Prerequisites Required, see course catalog
IT 410	3.0	ADVANCED WEB TECHNOLOGIES	Prerequisites Required, see course catalog
IS 201	3.0	PRINCIPLES OF FINANCIAL ACCOUNTING	Prerequisites Required, see course catalog

GRAPHIC DESIGN AND MULTIMEDIA			
TES 251	3.0	VIDEO PRODUCTION AND NONLINEAR EDITING	
TES 350	3.0	MULTIMEDIA AUTHORING AND PUBLISHING	
IT 210A	2.0	FUNDAMENTAL OF WEB-BASED INFORMATION TECH - A	Prerequisites Required, see course catalog
IT 210B	2.0	FUNDAMENTAL OF WEB-BASED INFORMATION TECH - B	Prerequisites Required, see course catalog
IT 327	4.0	DIGITAL COMMUNICATIONS	Prerequisites Required, see course catalog
IT 344	3.0	OPERATING SYSTMES	Prerequisites Required, see course catalog
IT 347	3.0	COMPUTER NETWORKS	Prerequisites Required, see course catalog
TMA 105	1.0	USING BASIC MEDIA TOOLS	Media arts minor only, see course catalog
TMA 185	3.0	BASIC MEDIA PRODUCTION	Media arts minor only, see course catalog
CSANM 150	1.5	INTRO TO THREE-DIMENSIONAL COMPUTER GRAPHICS	Instructor's consent, see course catalog
TMA 102	3.0	INTRODUCTION TO FILM	
TMA 384R	1-6	PRACTICUM: CINEMATIC SKILLS	Instructor's consent, see course catalog
COMMS 230	3.0	INTRO TO ADVERTISING	
COMMS 365	3.0	PHOTOJOURNALISM	Instructor's consent, see course catalog
DESPH 116	3.0	INTRO TO PHOTOG. & DIGITAL WORKFLOW	Instructor's consent, see course catalog
DESPH 270	3.0	INTRO TO B&W PHOTOGRAPHY	Instructor's consent, see course catalog
DESPH 410	3.0	COMPUTER APPLICATIONS STUDIO FOR PHOTOGRAPHERS	Instructor's consent, see course catalog
DESGD 245	3.0	GRAPHIC DESIGN 1	Instructor's consent, see course catalog
DESGD 243	3.0	TYPOGRAPHY 1	Instructor's consent, see course catalog
INDES 130	1.5	VISUAL LITERACY	Instructor's consent, see course catalog
INDES 131	1.5	STRUCTURED CREATIVITY	Instructor's consent, see course catalog
ART 225	3.0	PRINTMAKING FUNDAMENTALS	Instructor's consent, see course catalog

MANUFACTURING			
MFG 130	3.0	MODERN MANUFACTURING	
MFG 220	3.0	MATERIAL REMOVAL	Prerequisites Required, see course catalog
MFG 230	3.0	CAM	Prerequisites Required, see course catalog
MFG 331	4.0	METALS PROCESSES	Prerequisites Required, see course catalog
MFG 340	3.0	QUALITY SYSTEMS	Prerequisites Required, see course catalog
MFG 355	3.0	PLASTICS	Prerequisites Required, see course catalog
MFG 480	3.0	PROCESS PLANNING	Prerequisites Required, see course catalog
ME EN 282	3.0	MANUFACTURING PROCESSES	Prerequisites Required, see course catalog
TES 400	3.0	FURNITURE DESIGN	Prerequisites Required, see course catalog