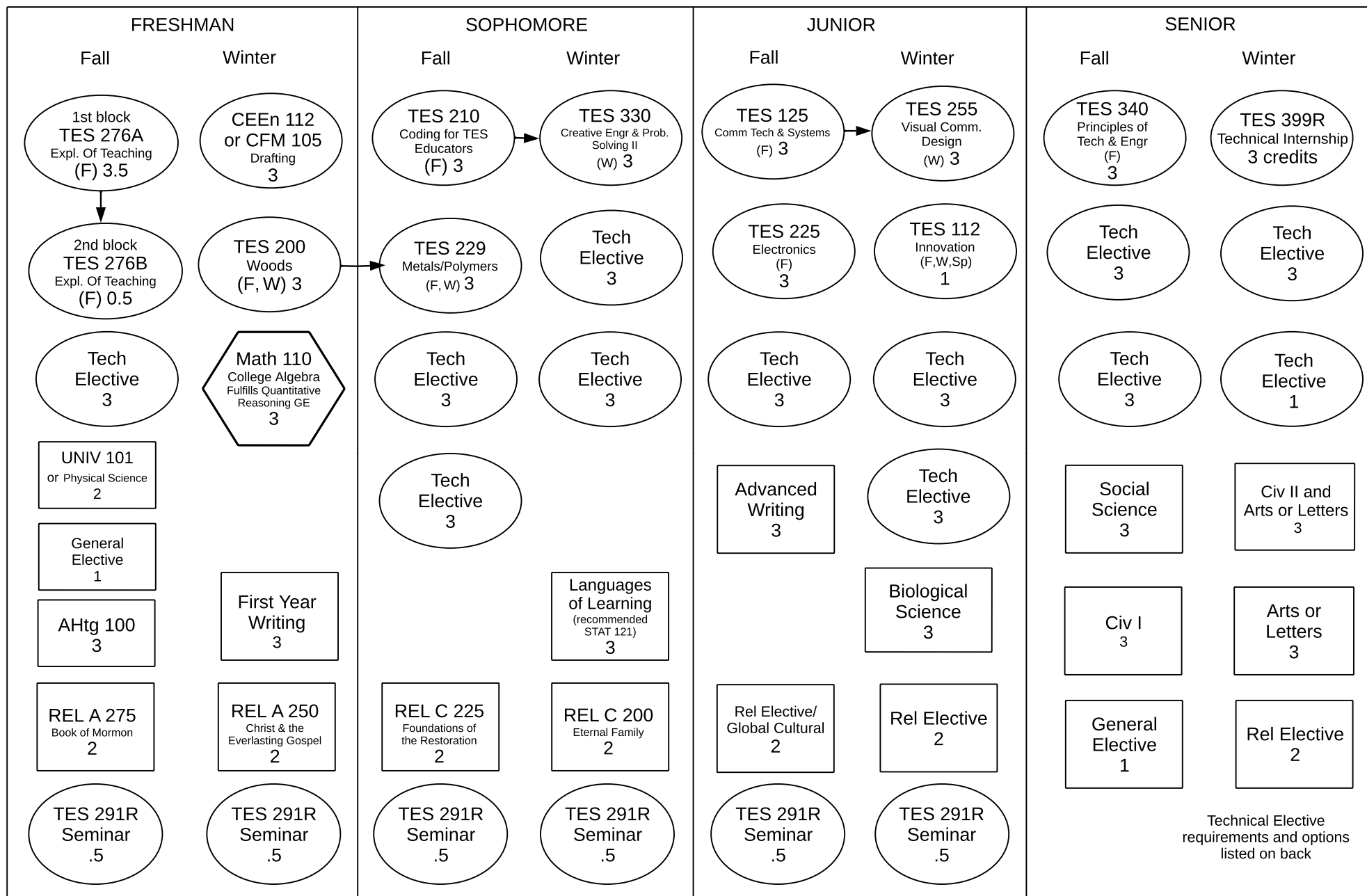


Please note This flowchart is not a contract.
For your contract information please see the catalog.

TECHNOLOGY AND ENGINEERING STUDIES 2024-2025

Technical / Industry Emphasis

Major Code:
396541



Credit Hours: 15.5

14.5

14.5

14.5

14.5

15.5

16

15



G.E. Classes



Major Classes



Major/G.E. Classes



Prerequisite Required

Total Credit Hours: 120

TECHNOLOGY AND ENGINEERING STUDIES (TES)

TEACHING EMPHASIS requires 9 credits of technical electives.

TECHNICAL EMPHASIS requires 34 credits of technical electives.

IMPORTANT INFORMATION

TECHNICAL EMPHASIS: All Technical Electives on this list are pre-approved. The following form, is to be used to ensure the course is added to your progress report:

<https://tes.byu.edu/https://brightspotcdn.byu.edu/c6/7d/32b43b7b424c839ab41463e77b32/tes-tech-elective-proposal-form.pdf> Please use form to provide a statement of your career goals and information about the proposed technical elective course(s). You may also petition course options not on this list. In general, potential elective course options not listed below include: TES classes not listed as a core requirement; courses taken within the College of Engineering (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. See <https://cetinterns.byu.edu/technology-engineering-studies> for more information on how to register for internship courses.

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. See tes.byu.edu/student-forms for more information.

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.

For TES Technical Majors: Upon admittance to the TES Technical Major, up to 9 credits of previous coursework may be applied from other STEM colleges/departments on campus if they are approved, and up to 9 transfer credits from outside of BYU may be applied if they are from a STEM discipline. These must follow the same approval process for all Tech Electives. See Advisement Office for details.

ELECTIVE CLASS OPTIONS FOR BOTH TEACHING EMPHASIS AND TECHNICAL EMPHASIS STUDENTS

ARCHITECTURE AND FURNITURE DESIGN

CFM 113	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 ENTREPRENEURSHIP

ENT 101	3.0	INTRO TO ENTREPRENEURSHIP	
ENT 301	3.0	BASIC ENTREPRENEURSHIP SKILLS	
ENT 313	1.0	START-UP BOOTCAMP	
MSB 375	3.0	SOCIAL INNOVATION	
MSB 381R	1.0	SOCIAL IMPACT LECTURES	
MSB 484	3.0	CORPORATE SOCIAL IMPACT	
MSB 492R	3.0	SOCIAL IMPACT PROJECTS	

COMPUTER SCIENCE

CS 110	3.0	HOW TO PROGRAM	
CS 111	3.0	INTRODUCTION to COMPUTER PROGRAMMING	
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

CCE 103	3.0	ENGINEERING MECHANICS-STATICS	Prerequisites Required, see course catalog
CCE 113	3.0	CONSTRUCTION MODELING	Prerequisites Required, see course catalog
CCE 305	1.5	CONCRETE/MASONRY	Instructor's consent, see course catalog
CFM 105	3.0	FUND. OF CONSTRUCTION AND FACILITIES	
CFM 110	3.0	FUNDAMENTALS O FACILITIES MANAGEMENT	
CFM 120	3.0	LIGHT STRUCTURAL SYSTEMS	Prerequisites Required, see course catalog
CFM 213	3.0	CONSTRUCTION SURVEYING	Prerequisites Required, see course catalog
CFM 241	2.0	ELECTRICAL	Instructor's consent, see course catalog
CFM 220	3.0	MECHANICAL SYSTEMS	Instructor's consent, see course catalog

IT, CYBERSECURITY, AND INFORMATION SYSTEMS

EC EN 224	4.0	COMPUTER ARCHITECTURE & ORGANIZATION	Prerequisites Required, see course catalog
IT&C 101	3.0	CORNERSTONE	
IT&C 210A	2.0	WEB-BASED PROGRAMMING - A	Prerequisites Required, see course catalog
IT&C 210B	2.0	WEB-BASED PROGRAMMING - B	Prerequisites Required, see course catalog
IT&C 247	3.0	COMPUTER NETWORKS	Prerequisites Required, see course catalog
IT&C 255	3.0	HUMAN-COMPITER INTERACTION	Prerequisites Required, see course catalog
IT&C 266	3.0	ADVERSARIAL AND DEFENSIVE MINDSET	Prerequisites Required, see course catalog
IT&C 327	4.0	DIGITAL COMMUNICATIONS	Prerequisites Required, see course catalog
IT&C 344	3.0	OPERATING SYSTEMS	Prerequisites Required, see course catalog
IT&C 350	3.0	DATABASE PRINCIPLES & APPLICATIONS	Prerequisites Required, see course catalog
IT&C 366	3.0	INFORMATION ASSURANCE AND SECURITY	Prerequisites Required, see course catalog
IT&C 410	3.0	ADVANCED WEB TECHNOLOGIES	Prerequisites Required, see course catalog
IS 110	1.0	SPREADSHEETS & BUS ANALYSIS	See course catalog
IS 120	3.0	INTRO TO WEB DEVELOPMENT	See course catalog
IS 201	3.0	PRINCIPLES OF FINANCIAL ACCOUNTING	Prerequisites Required, see course catalog
IS 302	3.0	INTRO TO DATABASES	See course catalog

GRAPHIC DESIGN, UX DESIGN, AND MULTIMEDIA			
TES 251	3.0	VIDEO PRODUCTION AND NONLINEAR EDITING	
TES 350	3.0	MULTIMEDIA AUTHORING AND PUBLISHING	
IT&C 210A	2.0	WEB-BASED PROGRAMMING - A	Prerequisites Required, see course catalog
IT&C 210B	2.0	WEB-BASED PROGRAMMING - B	Prerequisites Required, see course catalog
CS 256	3.0	USER EXPERIENCE DESIGN	Instructor's consent
CS 356	3.0	ADVANCED USER EXPERIENCE DESIGN	Prerequisites Required, see course catalog
IT&C 327	4.0	DIGITAL COMMUNICATIONS	Prerequisites Required, see course catalog
IT&C 344	3.0	OPERATING SYSTEMS	Prerequisites Required, see course catalog
IT&C 247	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	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 117	3.0	DESIGN THINKING	Instructor's consent, see course catalog
DESPH 270	3.0	INTRO TO B&W PHOTOGRAPHY	Instructor's consent, see course catalog
DESPH 280	3.0	MEDIA DESIGN 1	Instructor's consent, see course catalog
DESPH 360	3.0	INTERACTION DESIGN 1	Instructor's consent, see course catalog
DESPH 460	3.0	INTERACTION DESIGN 2	Instructor's consent, see course catalog
DESPH 410	3.0	COMPUTER APPLICATIONS STUDIO FOR	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
ART 225	3.0	PRINTMAKING FUNDAMENTALS	Instructor's consent, see course catalog

MANUFACTURING			
MFGEN 130	3.0	MODERN MANUFACTURING	
MFGEN 220	3.0	MATERIAL REMOVAL	Prerequisites Required, see course catalog
MFGEN 230	3.0	COMPUTER AIDED MANUFACTURING	Prerequisites Required, see course catalog
MFGEN 331	4.0	METALS PROCESSES	Prerequisites Required, see course catalog
MFGEN 340	3.0	QUALITY SYSTEMS	Prerequisites Required, see course catalog
MFGEN 355	3.0	PLASTICS AND COMPOSITES	Prerequisites Required, see course catalog
MFGEN 333	3.0	AUTOMATION	Prerequisites Required, see course catalog
MFGEN 381	3.0	LEAN MANUFACTURING SYSTEM DESIGN	Prerequisites Required, see course catalog
MFGEN 401	3.0	DATA ANALYSIS IN MANUFACTURING	Prerequisites Required, see course catalog
TES 400	3.0	FURNITURE DESIGN	Prerequisites Required, see course catalog

PEDAGOGY (elective options only for technical emphasis)			
TES 377	2.0	TEACHING METHODS IN TECHNOLOGY ED	Prerequisites Required, see course catalog
CPSE 402	2.0	EDUCATING STUDENTS WITH DISABILITIES	Prerequisites Required, see course catalog
SC ED 353	3.0	MULTICULTURAL EDUCATION	
SC ED 375	3.0	ADOLESCENT DEVELOPMENT AND CLASSROOM	Prerequisites Required, see course catalog