

Engineering Electronics/Physics

Department	Course Number	Course Name	Credits	Required §T	Term Taken
<b>Strongly Recommended</b>					
Physics	3020	Electromagnetic Fields & Waves (S)	3		
	3520	Instructional Assistance	1		
	3630	Digital Electronics (F)	3		
	3730	Analog Circuit Analysis (F)	3		
	4635	Advanced Microprocessor Interfacing & Robotics (S)	4		
	4735	Microprocessors (S)	3		
	4900	Electronics Internship (3-12 hours)	---		
*Technology	3001	CADD	3		
	2033	Active Circuits (F)	3		
	OR 2043	Introduction to Digital Electronics (S)	3		
	3023	Digital Systems (S)	3		
Mathematics	3130	Differential Equations	3		
*Computer Science	1400	FORTRAN Programming (s)	3		
	OR 1440	Computer Science I	3		
<b>Other Recommended Courses</b>					
Physics	---	-----	---		
*Technology	1001	Technical Drafting I	3		
	3003	Linear Systems (F)	3		
	4563	Introduction to Microprocessors (F)	3		
	4573	Control System Technology (S)	3		
	4583	Advanced Microprocessors (S)	3		
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*Computer Science	2440	Computer Science II	4		
	2450	Assembly Language & Machine Operation	3		
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Mathematics	4310	Numerical Methods (S)	3		
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Courses ending with (F) or (S) indicates that the course is offered only during that term.

\* Selected concentration course from technology and computer science.

## ENGINEERING ELECTRONICS

The B.S. Applied Physics program with a concentration in Engineering Electronics is designed to prepare students for a variety of technical career opportunities. Demands for new industrial, commercial, military and medical applications of microelectronics are growing rapidly. This increasing demand has created a need for high technology personnel in all phases of research, development, design, production, maintenance, sales and applications.

The Engineering Electronics program at A.S.U. is not a vocational training or an engineering program. It is a program that combines the application of scientific and engineering expertise with the technical methods and skills required in support of engineering activities. It should be considered as a terminal degree as it normally does not prepare one for graduate school.\* The curriculum provides the student with a background that lies between that of an electronics technician and an electrical engineer. The degree program is very flexible; it is individually tailored to fit the needs, interests, and abilities of the students who enter it. A committee of faculty members (consisting of Thomas L. Rokoske and J.Sidney Clements of the Department of Physics & Astronomy with E.Lamar Sheppard of the Department of Technology) meets with each student individually and helps him/her to design an appropriate curriculum. This meeting should occur as soon as the student is able to declare the major.

Students in the Engineering Electronics program take courses in circuit analysis, digital and analog electronics, microprocessors and microprocessor interfacing, as well as basic courses in physics. The student also completes a concentration comprised of computer science and technology courses to broaden their experience with computers and electronics. An important feature of the program is the provision for electronics internship or coop\*\* experience. Engineering Electronics students have the opportunity to spend a semester or two during their junior and/or senior year gaining valuable work experience in their chosen professions. These students may earn academic credit for meaningful work experience at an industrial firm or in a university laboratory.

Frequently, the internship or coop carries with it a salary that can help to reduce the burden of college expenses. Participation in an internship program does not normally increase the time required for graduation; the coop however may increase the time for graduation preparation.

\* See the Handbook for Majors for curricula leading to graduate studies.

\*\* See the Department of Physics and Astronomy coop liaison for information.