

## TIP List Sorted by S/C Technical Interest Area (as of April 2009)

AES010 2010 AEROSPACE AND ELECTRONIC SYSTEMS  
3115 INTEGRATED AVIONICS  
3221 SPACE SYSTEMS  
3227 SYSTEM DESIGN  
3228 SYSTEM ENGINEERING

AP003 2003 ANTENNAS AND PROPAGATION  
3008 ARRAYS  
3070 ELECTROMAGNETIC THEORY  
3159 NUMERICAL METHODS  
3189 PROPAGATION  
3192 RADAR

ASC041 2041 ASC(APPLICATIONS OF SUPERCONDUCTIVITY)  
3224 SUPERCONDUCTING MAGNETS AND MATERIALS  
4098 SUPERCONDUCTING ELECTRONIC  
4099 SUPERCONDUCTING MICROWAVE COMPONENTS  
4100 SUPERCONDUCTING WIRES AND CABLES  
4218 SUPERCONDUCTIVE DEVICES

BT002 3001 A.V. AND RF MEASUREMENTS AND TEST EQUIPMENT  
2003 ANTENNAS AND PROPAGATION  
3013 AUDIO AND ELECTROACOUSTICS  
3019 BROADCAST TECHNOLOGY  
3020 CABLE SYSTEMS  
3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
2008 CONSUMER ELECTRONICS  
3052 DATA TRANSMISSIONS AND TERMINALS  
3058 DIGITAL SIGNAL PROCESSING  
3059 DIGITAL VIDEO GEN./STORAGE/DISPLAY  
2027 ELECTROMAGNETIC COMPATIBILITY  
3088 FILTERS AND PASSIVE COMPONENTS  
3101 HOME TV RECEIVERS  
3104 IMAGE PROCESSING  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3126 MAGNETIC RECORDING  
3146 MICROWAVE SYSTEMS  
3171 PAY TV TECHNOLOGY  
2035 POWER ELECTRONICS  
3189 PROPAGATION  
3201 SATELLITE AND SPACE COMMUNICATIONS  
3220 SOURCE CODING, DATA COMPRESSION AND QUANTIZATION  
3241 TRANSMITTERS AND ANTENNAS  
3248 VIDEO SIGNAL PROCESSING THEORY/TECHNOLOGY  
3249 VIDEO SIGNAL TRANSMISSION  
3252 WIRELESS COMMUNICATIONS  
4010 CABLE-BASED DELIVERY AND ACCESS SYSTEMS  
4014 COMMUNICATIONS STANDARDS  
4058 MULTIMEDIA COMMUNICATIONS AND DIGITAL MEDIA  
4090 RADIO COMMUNICATIONS  
4203 DISPLAY DEVICES  
4205 ELECTRON TUBES AND ELECTRON BEAM DEVICES  
4206 HF-VHF-UHF TECHNOLOGY  
4211 NONIONIZING RADIATION  
4217 SPECTRUM MANAGEMENT

C016 2016 COMPUTER  
2010 AEROSPACE AND ELECTRONIC SYSTEMS  
3007 APPLICATIONS  
3009 ARTIFICIAL NEURAL NETWORKS  
3017 BIOMEDICAL INSTRUMENTATION

3018 BIOMEDICAL SIGNAL PROCESSING  
3022 COMMUNICATION AND DATA NETWORKS  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3024 COMMUNICATIONS AND POLICIES  
3026 COMMUNICATIONS SOFTWARE ARCHITECTURE AND IMPLEMENTATION  
3027 COMMUNICATIONS SWITCHING AND ROUTING  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN  
3031 COMPUTER AIDED CONTROL SYSTEMS DESIGN  
3032 COMPUTER AIDED DESIGN-ANALYSIS,SYNTHESIS,VERIFICATION,PHYSICAL  
3033 COMPUTER AND ROBOT VISION  
3034 COMPUTER ARCHITECTURE  
3035 COMPUTER COMMUNICATIONS  
3036 COMPUTER COMMUNICATIONS, SYSTEMS AND PROTOCOLS  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3038 COMPUTER ELEMENTS  
3039 COMPUTER GRAPHICS  
3040 COMPUTER LANGUAGES  
3041 COMPUTER NETWORKS  
3042 COMPUTERS IN MEDICINE  
3049 CRYPTOGRAPHY  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3051 DATA ENGINEERING  
3054 DESIGN AUTOMATION  
3058 DIGITAL SIGNAL PROCESSING  
3060 DISTRIBUTED PROCESSING  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3064 EDUCATIONAL TECHNOLOGY  
3075 EMBEDDED CONTROLLERS  
3078 ENGINEERING ETHICS  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
3083 ERROR CONTROL CODING  
3086 FAULT TOLERANT COMPUTING  
3091 FUZZY SYSTEMS  
3092 GAMES  
3094 GENETIC ALGORITHMS  
3096 GOVERNMENT AND TECHNOLOGY  
3097 HISTORY OF ELECTRICAL ENGINEERING AND COMPUTING  
3104 IMAGE PROCESSING  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
2012 INFORMATION THEORY  
2009 INSTRUMENTATION AND MEASUREMENT  
3118 INTELLIGENT CONTROL  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3122 INTERNET COMPUTING  
3128 MAINTAINABILITY  
3129 MANAGEMENT  
3130 MANAGEMENT DEVELOPMENT AND TRAINING  
3131 MANAGEMENT POLICIES,METHODS,PROCEDURES  
3132 MAN-MACHINE SYSTEMS  
3138 MATHEMATICAL FOUNDATIONS OF COMPUTING  
3142 MICRO PROCESSOR APPLICATION AND CONTROL  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3144 MICROPROCESSORS AND MICROCOMPUTERS  
3148 MODELING, SIMULATION AND DATABASES  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3160 OBJECT ORIENTED COMPUTING  
3162 OPERATING SYSTEMS  
3163 OPTICAL COMMUNICATIONS AND NETWORKING  
3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE  
3169 PATTERN RECOGNITION  
3170 PATTERN RECOGNITION AND LEARNING  
3179 PORTABLE COMMUNICATIONS  
2026 PROFESSIONAL COMMUNICATION

3188 PROGRAM,PROJECT MANAGEMENT  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3196 REAL TIME SYSTEMS  
2007 RELIABILITY  
3200 ROBOTICS AND AUTOMATION  
3202 SECURITY AND PRIVACY  
3211 SIMULATION  
2030 SOCIAL IMPLICATIONS OF TECHNOLOGY  
3215 SOFTWARE  
3216 SOFTWARE ENGINEERING  
3227 SYSTEM DESIGN  
3228 SYSTEM ENGINEERING  
3229 SYSTEMS ANALYSIS AND DECISION ANALYSIS  
3230 SYSTEMS MANAGEMENT  
3231 SYSTEMS SCIENCE  
2028 SYSTEMS, MAN AND CYBERNETICS  
3235 TECHNOLOGY FORECASTING AND ASSESSMENT  
3237 TEST TECHNOLOGY  
3250 VLSI  
3251 VLSI CIRCUITS,SYSTEMS AND APPLICATIONS  
3252 WIRELESS COMMUNICATIONS  
4004 ARTIFICIAL INTELLIGENCE  
4016 COMPUTATION  
4023 DATA MINING  
4027 DISTRIBUTED SYSTEMS  
4028 E-COMMERCE  
4032 EMBEDDED SYSTEMS  
4034 ENTERPRISE RESOURCE PLANNING  
4038 HARDWARE ENGINEERING/DEVELOPMENT  
4047 IT MANAGEMENT  
4057 MULTIMEDIA  
4071 NETWORK ENGINEERING  
4072 NETWORK MANAGEMENT  
4087 QUALITY ASSURANCE  
4096 STANDARDS  
4108 VIRTUAL REALITY  
4109 VISUALIZATION  
4111 WIRELESS APPLICATION DEVELOPMENT  
4185 PROGRAMMING LANGUAGES

CAS004 2004 CIRCUITS AND SYSTEMS  
2309 SENSORS, INSTRUMENTATION AND DATA ACQUISITION  
3002 ADAPTIVE SYSTEMS  
3004 ANALOG,DIGITAL AND MIXED MODE SIGNAL PROCESSING  
3005 ANALYSIS & CONTROL OF POWER ELECTRONICS SYSTEMS  
3009 ARTIFICIAL NEURAL NETWORKS  
3010 ASICs AND PORTABLE ELECTRONICS  
3017 BIOMEDICAL INSTRUMENTATION  
3018 BIOMEDICAL SIGNAL PROCESSING  
3021 CIRCUITS AND SYSTEMS THEORY, DESIGN AND IMPLEMENTATION  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3025 COMMUNICATIONS SIGNAL PROCESSING  
3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN  
3031 COMPUTER AIDED CONTROL SYSTEMS DESIGN  
3039 COMPUTER GRAPHICS  
3045 CONTROL OF POWER SYSTEMS  
3047 CONTROL THEORY  
3052 DATA TRANSMISSIONS AND TERMINALS  
3053 DC-TO-DC CONVERTERS & DC POWER SUPPLY SYSTEMS  
3055 DETECTION, ESTIMATION AND IDENTIFICATION  
3058 DIGITAL SIGNAL PROCESSING  
3064 EDUCATIONAL TECHNOLOGY  
2027 ELECTROMAGNETIC COMPATIBILITY

2018 ENGINEERING IN MEDICINE AND BIOLOGY  
3088 FILTERS AND PASSIVE COMPONENTS  
3091 FUZZY SYSTEMS  
3094 GENETIC ALGORITHMS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
2013 INDUSTRIAL ELECTRONICS  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
3116 INTEGRATED ELECTRONICS  
3117 INTEGRATED OPTICS AND OPTOELECTRONICS  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3125 LEARNING THEORY  
3132 MAN-MACHINE SYSTEMS  
3141 METHODS OF MEASUREMENT  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3148 MODELING, SIMULATION AND DATABASES  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3153 NON-DESTRUCTIVE TESTING AND EVALUATION  
3154 NONLINEAR OPTICS  
3159 NUMERICAL METHODS  
3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE  
3169 PATTERN RECOGNITION  
3170 PATTERN RECOGNITION AND LEARNING  
3181 POWER ELECTRONICS DEVICES,CIRCUITS AND SYSTEMS  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3197 RECTIFIERS & AC POWER SUPPLY SYSTEMS  
3203 SEMICONDUCTOR DISCRETE DEVICES  
3208 SENSOR DESIGN,INTEGRATION, AND FUSION  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
3218 SOLID STATE CIRCUIT AND SYSTEMS  
3227 SYSTEM DESIGN  
3245 VEHICLES AND SYSTEMS  
3248 VIDEO SIGNAL PROCESSING THEORY/TECHNOLOGY  
3249 VIDEO SIGNAL TRANSMISSION  
3251 VLSI CIRCUITS,SYSTEMS AND APPLICATIONS  
3252 WIRELESS COMMUNICATIONS  
4011 CIRCUIT ANALYSIS AND SIMULATION  
4012 CIRCUIT SYNTHESIS  
4017 COMPUTER AIDED DESIGN  
4039 HIGH PERFORMANCE CIRCUIT DESIGN  
4049 LOW POWER CIRCUIT DESIGN  
4103 TESTING  
4107 VERIFICATION AND VALIDATION

CE008 2008 CONSUMER ELECTRONICS  
3020 CABLE SYSTEMS  
3092 GAMES  
3099 HOME AM AND FM SOUND RECEIVERS  
3100 HOME RECORDER/PLAYBACK MEDIA  
3101 HOME TV RECEIVERS  
3142 MICRO PROCESSOR APPLICATION AND CONTROL  
3171 PAY TV TECHNOLOGY

CIS011 2011 NEURAL NETWORKS  
3002 ADAPTIVE SYSTEMS  
3007 APPLICATIONS  
3009 ARTIFICIAL NEURAL NETWORKS  
3091 FUZZY SYSTEMS  
3094 GENETIC ALGORITHMS  
2012 INFORMATION THEORY

3125 LEARNING THEORY  
3138 MATHEMATICAL FOUNDATIONS OF COMPUTING  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3169 PATTERN RECOGNITION  
4003 APPLICATION AND IMPLEMENTATION OF COMPUTATIONAL INTELLIGENCE  
4008 BIOLOGICAL NEURAL NETWORKS  
4221 COMPUTATIONAL INTELLIGENCE

COM019 2019 COMMUNICATIONS  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3026 COMMUNICATIONS SOFTWARE ARCHITECTURE AND IMPLEMENTATION  
3027 COMMUNICATIONS SWITCHING AND ROUTING  
3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
3036 COMPUTER COMMUNICATIONS, SYSTEMS AND PROTOCOLS  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3163 OPTICAL COMMUNICATIONS AND NETWORKING  
3201 SATELLITE AND SPACE COMMUNICATIONS  
3240 TRANSMISSION, ACCESS AND OPTICAL SYSTEMS  
3252 WIRELESS COMMUNICATIONS  
4010 CABLE-BASED DELIVERY AND ACCESS SYSTEMS  
4014 COMMUNICATIONS STANDARDS  
4024 DEFENSE AND MILITARY COMMUNICATIONS  
4033 ENTERPRISE NETWORKING  
4037 GIGABIT NETWORKING  
4042 INFORMATION INFRASTRUCTURE  
4046 INTERCONNECTIONS IN HIGH SPEED DIGITAL SYSTEMS  
4058 MULTIMEDIA COMMUNICATIONS AND DIGITAL MEDIA  
4073 NETWORK OPERATIONS, MANAGEMENT AND CONTROL  
4074 NETWORK RELIABILITY  
4084 PRODUCT SALES AND MARKETING  
4090 RADIO COMMUNICATIONS  
4093 SIGNAL PROCESSING, STORAGE AND COMMUNICATIONS ELECTRONICS

CPMT021 2021 COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY  
3008 ARRAYS  
3013 AUDIO AND ELECTROACOUSTICS  
3025 COMMUNICATIONS SIGNAL PROCESSING  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3058 DIGITAL SIGNAL PROCESSING  
3072 ELECTRONIC PACKAGING  
3084 EXPLORATION  
3102 HYBRID MICROELECTRONICS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
2009 INSTRUMENTATION AND MEASUREMENT  
3119 INTERACTION EFFECTS-AIR-SEA-SPACE-EARTH  
3134 MANUFACTURING TECHNOLOGY  
3135 MARINE COMMUNICATIONS, NAVIGATION AND POSITIONING  
3136 MATERIALS AND PROCESSES  
3142 MICRO PROCESSOR APPLICATION AND CONTROL  
3148 MODELING, SIMULATION AND DATABASES  
3153 NON-DESTRUCTIVE TESTING AND EVALUATION  
3165 OPTOELECTRONIC DEVICES  
2035 POWER ELECTRONICS  
3190 QUALITY CONTROL TECHNIQUES  
3205 SEMICONDUCTOR MANUFACTURING  
3206 SEMICONDUCTOR PROCESS TECHNOLOGY  
3236 TEST TECHNIQUES  
4015 COMPONENT ASSEMBLY  
4044 INTEGRAL AND INTEGRATED PASSAGES  
4083 PRINTED WIRING  
4104 SYSTEMS PACKAGING  
4110 WAFER LEVEL PACKAGING

CS023 3002 ADAPTIVE SYSTEMS

2010 AEROSPACE AND ELECTRONIC SYSTEMS  
3005 ANALYSIS & CONTROL OF POWER ELECTRONICS SYSTEMS  
3007 APPLICATIONS  
3009 ARTIFICIAL NEURAL NETWORKS  
3016 BIOLOGICAL AND MEDICAL  
3017 BIOMEDICAL INSTRUMENTATION  
3021 CIRCUITS AND SYSTEMS THEORY, DESIGN AND IMPLEMENTATION  
3022 COMMUNICATION AND DATA NETWORKS  
3032 COMPUTER AIDED DESIGN-ANALYSIS,SYNTHESIS,VERIFICATION,PHYSICAL  
3033 COMPUTER AND ROBOT VISION  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3044 CONTROL AND POWER CONVERSION  
3045 CONTROL OF POWER SYSTEMS  
3046 CONTROL SYSTEMS  
3047 CONTROL THEORY  
3054 DESIGN AUTOMATION  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3075 EMBEDDED CONTROLLERS  
3078 ENGINEERING ETHICS  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
3089 FREQUENCY CONTROL  
3091 FUZZY SYSTEMS  
3092 GAMES  
3094 GENETIC ALGORITHMS  
3105 INDUSTRIAL AND COMMERCIAL POWER SYSTEMS  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
3107 INDUSTRIAL AUTOMATION AND CONTROL  
3109 INDUSTRIAL PROCESS CONTROL  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
3118 INTELLIGENT CONTROL  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3125 LEARNING THEORY  
3132 MAN-MACHINE SYSTEMS  
3133 MANUFACTURING AUTOMATION  
3142 MICRO PROCESSOR APPLICATION AND CONTROL  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3148 MODELING, SIMULATION AND DATABASES  
3149 MOTION AND PATH PLANNING  
3150 MOTOR DRIVERS & MOTION CONTROL  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3159 NUMERICAL METHODS  
3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE  
3175 PHYSIOLOGICAL SYSTEMS MODELING  
3190 QUALITY CONTROL TECHNIQUES  
3194 REACTOR INSTRUMENTATION AND CONTROLS  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3196 REAL TIME SYSTEMS  
2007 RELIABILITY  
3200 ROBOTICS AND AUTOMATION  
3201 SATELLITE AND SPACE COMMUNICATIONS  
3211 SIMULATION  
3215 SOFTWARE  
3221 SPACE SYSTEMS  
3227 SYSTEM DESIGN  
3229 SYSTEMS ANALYSIS AND DECISION ANALYSIS  
2028 SYSTEMS, MAN AND CYBERNETICS  
3242 TRANSPORTATION  
3245 VEHICLES AND SYSTEMS  
4001 AEROSPACE AND VEHICLE CONTROLS  
4019 CONTROL EDUCATION  
4020 CONTROL OF NETWORKS AND COMMUNICATION SYSTEMS  
4051 MANUFACTURING AUTOMATION AND ROBOT CONTROL

DEI032 2032 DIELECTRICS AND ELECTRICAL INSULATION  
3048 CORONA  
3056 DIELECTRIC MATERIALS  
3137 MATERIALS FOR ELECTRONICS  
2035 POWER ELECTRONICS  
3181 POWER ELECTRONICS DEVICES,CIRCUITS AND SYSTEMS  
2031 POWER ENGINEERING

E025 2025 EDUCATION  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3063 EDUCATIONAL METHODS  
3064 EDUCATIONAL TECHNOLOGY  
3113 INSTRUCTIONAL MATERIALS  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3133 MANUFACTURING AUTOMATION  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3149 MOTION AND PATH PLANNING  
4045 INTELLIGENT TRANSPORTATION SYSTEMS

ED015 2015 ELECTRON DEVICES  
3116 INTEGRATED ELECTRONICS  
3165 OPTOELECTRONIC DEVICES  
3191 QUANTUM ELECTRONICS  
3203 SEMICONDUCTOR DISCRETE DEVICES  
4202 DEVICE RELIABILITY  
4203 DISPLAY DEVICES  
4212 PHOTOVOLTAIC  
2035 POWER ELECTRONICS  
3205 SEMICONDUCTOR MANUFACTURING  
4218 SUPERCONDUCTIVE DEVICES  
4219 VACUUM DEVICES  
4220 VLSI TECHNOLOGY

EM014 2014 ENGINEERING MANAGEMENT  
3130 MANAGEMENT DEVELOPMENT AND TRAINING  
3131 MANAGEMENT POLICIES,METHODS,PROCEDURES  
3187 PROFESSIONAL DEVELOP. AND MOTIVATION  
3188 PROGRAM,PROJECT MANAGEMENT  
3230 SYSTEMS MANAGEMENT  
4081 ORGANIZATION  
4092 RESOURCE MANAGEMENT

EMB018 2018 ENGINEERING IN MEDICINE AND BIOLOGY  
3018 BIOMEDICAL SIGNAL PROCESSING  
3042 COMPUTERS IN MEDICINE  
2014 ENGINEERING MANAGEMENT  
3088 FILTERS AND PASSIVE COMPONENTS  
3094 GENETIC ALGORITHMS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
3104 IMAGE PROCESSING  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
2012 INFORMATION THEORY  
2009 INSTRUMENTATION AND MEASUREMENT  
3116 INTEGRATED ELECTRONICS  
3117 INTEGRATED OPTICS AND OPTOELECTRONICS  
3118 INTELLIGENT CONTROL  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3122 INTERNET COMPUTING  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3124 LASERS AND ELECTRO-OPTICS  
3128 MAINTAINABILITY  
3132 MAN-MACHINE SYSTEMS  
3139 MEASURING TECHNOLOGY  
3142 MICRO PROCESSOR APPLICATION AND CONTROL

3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3144 MICROPROCESSORS AND MICROCOMPUTERS  
3145 MICROWAVE AND MILLIMETER WAVE SOLID STATE DEVICES  
3146 MICROWAVE SYSTEMS  
3148 MODELING, SIMULATION AND DATABASES  
3149 MOTION AND PATH PLANNING  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3159 NUMERICAL METHODS  
3165 OPTOELECTRONIC DEVICES  
3166 OPTOELECTRONICS AND IMAGING  
3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE  
3169 PATTERN RECOGNITION  
3170 PATTERN RECOGNITION AND LEARNING  
3175 PHYSIOLOGICAL SYSTEMS MODELING  
3193 RADIATION EFFECTS  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3200 ROBOTICS AND AUTOMATION  
3202 SECURITY AND PRIVACY  
3209 SENSORS, INSTRUMENTATION AND DATA ACQUISITION  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
2030 SOCIAL IMPLICATIONS OF TECHNOLOGY  
3216 SOFTWARE ENGINEERING  
3222 SPEECH PROCESSING  
3223 SUBMILLIMETER-WAVE TECHNIQUES  
2028 SYSTEMS, MAN AND CYBERNETICS  
3234 TECHNICAL PUBLICATION  
3251 VLSI CIRCUITS, SYSTEMS AND APPLICATIONS  
3252 WIRELESS COMMUNICATIONS  
4057 MULTIMEDIA  
4108 VIRTUAL REALITY  
4109 VISUALIZATION

EMC027 2027 ELECTROMAGNETIC COMPATIBILITY  
3069 ELECTROMAGNETIC INTERFERENCE CONTROL  
3070 ELECTROMAGNETIC THEORY  
3074 ELECTROSTATIC DISCHARGE/LIGHTING  
3081 ENVIRONMENTAL QUALITY  
3082 EQUIP/SYS ANALYSIS  
3141 METHODS OF MEASUREMENT  
3183 POWER QUALITY  
4096 STANDARDS

GRS029 2029 GEOSCIENCE AND REMOTE SENSING  
3012 ATMOSPHERIC  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3061 EARTH RESOURCES  
3084 EXPLORATION  
3119 INTERACTION EFFECTS-AIR-SEA-SPACE-EARTH  
3178 POLLUTION  
3217 SOLID EARTH

IA034 2034 INDUSTRY APPLICATIONS  
3005 ANALYSIS & CONTROL OF POWER ELECTRONICS SYSTEMS  
3007 APPLICATIONS  
3009 ARTIFICIAL NEURAL NETWORKS  
3010 ASICs AND PORTABLE ELECTRONICS  
3014 AUTOMOTIVE ELECTRICAL TECHNOLOGY  
3015 AUTOMOTIVE ELECTRONICS  
3020 CABLE SYSTEMS  
3021 CIRCUITS AND SYSTEMS THEORY, DESIGN AND IMPLEMENTATION  
2021 COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN

3032 COMPUTER AIDED DESIGN-ANALYSIS,SYNTHESIS,VERIFICATION,PHYSICAL  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
2008 CONSUMER ELECTRONICS  
3044 CONTROL AND POWER CONVERSION  
3045 CONTROL OF POWER SYSTEMS  
3048 CORONA  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3053 DC-TO-DC CONVERTERS & DC POWER SUPPLY SYSTEMS  
3054 DESIGN AUTOMATION  
2032 DIELECTRICS AND ELECTRICAL INSULATION  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3065 ELECTRIC CARS  
3066 ELECTRIC MACHINERY  
3067 ELECTRICAL SAFETY,INDUSTRY AND GENERAL  
2027 ELECTROMAGNETIC COMPATIBILITY  
3069 ELECTROMAGNETIC INTERFERENCE CONTROL  
3070 ELECTROMAGNETIC THEORY  
3072 ELECTRONIC PACKAGING  
3073 ELECTRONIC TRANSFORMERS  
3074 ELECTROSTATIC DISCHARGE/LIGHTING  
3075 EMBEDDED CONTROLLERS  
3076 ENERGY  
3077 ENERGY DEVELOPMENT AND POWER GENERATION  
3078 ENGINEERING ETHICS  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
2014 ENGINEERING MANAGEMENT  
3081 ENVIRONMENTAL QUALITY  
3082 EQUIP/SYS ANALYSIS  
3085 FACTORY AUTOMATION  
3086 FAULT TOLERANT COMPUTING  
3087 FERROELECTRICS  
3088 FILTERS AND PASSIVE COMPONENTS  
3089 FREQUENCY CONTROL  
3094 GENETIC ALGORITHMS  
2029 GEOSCIENCE AND REMOTE SENSING  
3096 GOVERNMENT AND TECHNOLOGY  
3097 HISTORY OF ELECTRICAL ENGINEERING AND COMPUTING  
3098 HISTORY OF ELECTROTECHNOLOGY  
3105 INDUSTRIAL AND COMMERCIAL POWER SYSTEMS  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
3107 INDUSTRIAL AUTOMATION AND CONTROL  
2013 INDUSTRIAL ELECTRONICS  
3109 INDUSTRIAL PROCESS CONTROL  
2009 INSTRUMENTATION AND MEASUREMENT  
3115 INTEGRATED AVIONICS  
3116 INTEGRATED ELECTRONICS  
3117 INTEGRATED OPTICS AND OPTOELECTRONICS  
3118 INTELLIGENT CONTROL  
2033 MAGNETICS  
3128 MAINTAINABILITY  
3129 MANAGEMENT  
3130 MANAGEMENT DEVELOPMENT AND TRAINING  
3132 MAN-MACHINE SYSTEMS  
3133 MANUFACTURING AUTOMATION  
3134 MANUFACTURING TECHNOLOGY  
3137 MATERIALS FOR ELECTRONICS  
3140 MEMORIES-SEMICONDUCTOR,MAGNETIC,OPTICAL  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3148 MODELING, SIMULATION AND DATABASES  
3150 MOTOR DRIVERS & MOTION CONTROL  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3153 NON-DESTRUCTIVE TESTING AND EVALUATION  
3159 NUMERICAL METHODS

3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE  
3172 PERMANENT MAGNETS  
3173 PETROLEUM AND CHEMICAL INDUSTRY  
2035 POWER ELECTRONICS  
3181 POWER ELECTRONICS DEVICES,CIRCUITS AND SYSTEMS  
2031 POWER ENGINEERING  
3183 POWER QUALITY  
3184 POWER SYSTEMS INSTRUMENTATION AND MEASUREMENT  
3185 POWER SYSTEMS RELAYING  
2026 PROFESSIONAL COMMUNICATION  
3187 PROFESSIONAL DEVELOP. AND MOTIVATION  
3188 PROGRAM,PROJECT MANAGEMENT  
3190 QUALITY CONTROL TECHNIQUES  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3196 REAL TIME SYSTEMS  
3197 RECTIFIERS & AC POWER SUPPLY SYSTEMS  
2007 RELIABILITY  
3203 SEMICONDUCTOR DISCRETE DEVICES  
3205 SEMICONDUCTOR MANUFACTURING  
3206 SEMICONDUCTOR PROCESS TECHNOLOGY  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
3214 SOFT MAGNETIC MATERIALS  
3218 SOLID STATE CIRCUIT AND SYSTEMS  
3219 SOLID-STATE CIRCUIT DESIGN TECHNIQUES  
3224 SUPERCONDUCTING MAGNETS AND MATERIALS  
3226 SWITCHGEAR  
3227 SYSTEM DESIGN  
3228 SYSTEM ENGINEERING  
3229 SYSTEMS ANALYSIS AND DECISION ANALYSIS  
3230 SYSTEMS MANAGEMENT  
3235 TECHNOLOGY FORECASTING AND ASSESSMENT  
3236 TEST TECHNIQUES  
3238 TRANSFORMERS  
3239 TRANSMISSION AND DISTRIBUTION  
2020 ULTRASONICS FERROELECTRICS AND FREQ. CONTROL

IE013 2013 INDUSTRIAL ELECTRONICS  
3010 ASICs AND PORTABLE ELECTRONICS  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3075 EMBEDDED CONTROLLERS  
3085 FACTORY AUTOMATION  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
3181 POWER ELECTRONICS DEVICES,CIRCUITS AND SYSTEMS  
3207 SENSOR AND DATA FUSION AND INDUSTRIAL VISION  
4085 PROGRAMMING LANGUAGES IN INDUSTRY

IEEE500 3024 COMMUNICATIONS AND POLICIES  
3076 ENERGY  
3081 ENVIRONMENTAL QUALITY  
3097 HISTORY OF ELECTRICAL ENGINEERING AND COMPUTING  
3235 TECHNOLOGY FORECASTING AND ASSESSMENT  
3242 TRANSPORTATION  
4096 STANDARDS  
4097 STANDARDS USE OR IMPLEMENTATION  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
5040 ENVIRONMENT, HEALTH, SAFETY

IM009 2009 INSTRUMENTATION AND MEASUREMENT  
3011 ATE TEST AND MEASUREMENT SYSTEMS

IT012 2012 INFORMATION THEORY  
3022 COMMUNICATION AND DATA NETWORKS  
3025 COMMUNICATIONS SIGNAL PROCESSING

3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
3049 CRYPTOGRAPHY  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3055 DETECTION, ESTIMATION AND IDENTIFICATION  
3058 DIGITAL SIGNAL PROCESSING  
3083 ERROR CONTROL CODING  
3170 PATTERN RECOGNITION AND LEARNING  
2001 SIGNAL PROCESSING  
3220 SOURCE CODING, DATA COMPRESSION AND QUANTIZATION  
3252 WIRELESS COMMUNICATIONS

ITS038 4045 INTELLIGENT TRANSPORTATION SYSTEMS

LEO036 3007 APPLICATIONS  
3016 BIOLOGICAL AND MEDICAL  
3017 BIOMEDICAL INSTRUMENTATION  
3022 COMMUNICATION AND DATA NETWORKS  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3025 COMMUNICATIONS SIGNAL PROCESSING  
3026 COMMUNICATIONS SOFTWARE ARCHITECTURE AND IMPLEMENTATION  
3027 COMMUNICATIONS SWITCHING AND ROUTING  
3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
2021 COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY  
3035 COMPUTER COMMUNICATIONS  
3036 COMPUTER COMMUNICATIONS, SYSTEMS AND PROTOCOLS  
3041 COMPUTER NETWORKS  
3052 DATA TRANSMISSIONS AND TERMINALS  
3055 DETECTION, ESTIMATION AND IDENTIFICATION  
3056 DIELECTRIC MATERIALS  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3070 ELECTROMAGNETIC THEORY  
2015 ELECTRON DEVICES  
3072 ELECTRONIC PACKAGING  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
2014 ENGINEERING MANAGEMENT  
3081 ENVIRONMENTAL QUALITY  
3088 FILTERS AND PASSIVE COMPONENTS  
3089 FREQUENCY CONTROL  
3090 FUSION TECHNOLOGY  
2029 GEOSCIENCE AND REMOTE SENSING  
3096 GOVERNMENT AND TECHNOLOGY  
3102 HYBRID MICROELECTRONICS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
3104 IMAGE PROCESSING  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
2012 INFORMATION THEORY  
2009 INSTRUMENTATION AND MEASUREMENT  
3116 INTEGRATED ELECTRONICS  
3117 INTEGRATED OPTICS AND OPTOELECTRONICS  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3124 LASERS AND ELECTRO-OPTICS  
3129 MANAGEMENT  
3133 MANUFACTURING AUTOMATION  
3137 MATERIALS FOR ELECTRONICS  
3138 MATHEMATICAL FOUNDATIONS OF COMPUTING  
3139 MEASURING TECHNOLOGY  
3140 MEMORIES-SEMICONDUCTOR, MAGNETIC, OPTICAL  
3142 MICRO PROCESSOR APPLICATION AND CONTROL  
3145 MICROWAVE AND MILLIMETER WAVE SOLID STATE DEVICES  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3154 NONLINEAR OPTICS  
3163 OPTICAL COMMUNICATIONS AND NETWORKING  
3164 OPTICAL FIBER AND PLANAR WAVEGUIDE TECHNOLOGY  
3165 OPTOELECTRONIC DEVICES

3166 OPTOELECTRONICS AND IMAGING  
3188 PROGRAM,PROJECT MANAGEMENT  
3189 PROPAGATION  
3190 QUALITY CONTROL TECHNIQUES  
3191 QUANTUM ELECTRONICS  
3196 REAL TIME SYSTEMS  
3197 RECTIFIERS & AC POWER SUPPLY SYSTEMS  
2007 RELIABILITY  
3199 RELIABILITY PHYSICS  
3201 SATELLITE AND SPACE COMMUNICATIONS  
3203 SEMICONDUCTOR DISCRETE DEVICES  
3204 SEMICONDUCTOR LASERS  
3205 SEMICONDUCTOR MANUFACTURING  
3206 SEMICONDUCTOR PROCESS TECHNOLOGY  
3207 SENSOR AND DATA FUSION AND INDUSTRIAL VISION  
3208 SENSOR DESIGN,INTEGRATION, AND FUSION  
3209 SENSORS,INSTRUMENTATION AND DATA ACQUISITION  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
3218 SOLID STATE CIRCUIT AND SYSTEMS  
3225 SURFACE AND BULK ACOUSTIC WAVE DEVICES  
3233 TECHNICAL PRESENTATIONS  
3234 TECHNICAL PUBLICATION  
3235 TECHNOLOGY FORECASTING AND ASSESSMENT  
3236 TEST TECHNIQUES  
3237 TEST TECHNOLOGY  
3238 TRANSFORMERS  
3239 TRANSMISSION AND DISTRIBUTION  
3240 TRANSMISSION,ACCESS AND OPTICAL SYSTEMS  
3252 WIRELESS COMMUNICATIONS

MAG033 2033 MAGNETICS  
3002 ADAPTIVE SYSTEMS  
3004 ANALOG,DIGITAL AND MIXED MODE SIGNAL PROCESSING  
3009 ARTIFICIAL NEURAL NETWORKS  
3013 AUDIO AND ELECTROACOUSTICS  
3014 AUTOMOTIVE ELECTRICAL TECHNOLOGY  
3015 AUTOMOTIVE ELECTRONICS  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3044 CONTROL AND POWER CONVERSION  
3045 CONTROL OF POWER SYSTEMS  
3051 DATA ENGINEERING  
3054 DESIGN AUTOMATION  
3066 ELECTRIC MACHINERY  
3067 ELECTRICAL SAFETY,INDUSTRY AND GENERAL  
2027 ELECTROMAGNETIC COMPATIBILITY  
2015 ELECTRON DEVICES  
3072 ELECTRONIC PACKAGING  
3073 ELECTRONIC TRANSFORMERS  
3077 ENERGY DEVELOPMENT AND POWER GENERATION  
3081 ENVIRONMENTAL QUALITY  
3085 FACTORY AUTOMATION  
3096 GOVERNMENT AND TECHNOLOGY  
3098 HISTORY OF ELECTROTECHNOLOGY  
3109 INDUSTRIAL PROCESS CONTROL  
2034 INDUSTRY APPLICATIONS  
2012 INFORMATION THEORY  
3124 LASERS AND ELECTRO-OPTICS  
3125 LEARNING THEORY  
3126 MAGNETIC RECORDING  
3134 MANUFACTURING TECHNOLOGY  
3138 MATHEMATICAL FOUNDATIONS OF COMPUTING  
3139 MEASURING TECHNOLOGY  
3141 METHODS OF MEASUREMENT

3144 MICROPROCESSORS AND MICROCOMPUTERS  
3145 MICROWAVE AND MILLIMETER WAVE SOLID STATE DEVICES  
3148 MODELING, SIMULATION AND DATABASES  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3157 NUCLEAR MEDICAL AND IMAGING SCIENCES  
3170 PATTERN RECOGNITION AND LEARNING  
3172 PERMANENT MAGNETS  
2035 POWER ELECTRONICS  
3189 PROPAGATION  
3206 SEMICONDUCTOR PROCESS TECHNOLOGY  
3207 SENSOR AND DATA FUSION AND INDUSTRIAL VISION  
3208 SENSOR DESIGN, INTEGRATION, AND FUSION  
2030 SOCIAL IMPLICATIONS OF TECHNOLOGY  
3214 SOFT MAGNETIC MATERIALS  
3222 SPEECH PROCESSING  
3224 SUPERCONDUCTING MAGNETS AND MATERIALS  
3236 TEST TECHNIQUES  
3237 TEST TECHNOLOGY  
4009 BIOMAGNETISM  
4050 MAGNETORESISTANCE  
4069 NANOTECHNOLOGY  
4095 SPIN ELECTRONICS/SPINTRONICS

MTT017 2017 MICROWAVE THEORY AND TECHNIQUES  
3002 ADAPTIVE SYSTEMS  
3009 ARTIFICIAL NEURAL NETWORKS  
3010 ASICs AND PORTABLE ELECTRONICS  
3017 BIOMEDICAL INSTRUMENTATION  
3018 BIOMEDICAL SIGNAL PROCESSING  
3021 CIRCUITS AND SYSTEMS THEORY, DESIGN AND IMPLEMENTATION  
3022 COMMUNICATION AND DATA NETWORKS  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3026 COMMUNICATIONS SOFTWARE ARCHITECTURE AND IMPLEMENTATION  
3033 COMPUTER AND ROBOT VISION  
3034 COMPUTER ARCHITECTURE  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3039 COMPUTER GRAPHICS  
3042 COMPUTERS IN MEDICINE  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3067 ELECTRICAL SAFETY, INDUSTRY AND GENERAL  
2027 ELECTROMAGNETIC COMPATIBILITY  
3072 ELECTRONIC PACKAGING  
3075 EMBEDDED CONTROLLERS  
3078 ENGINEERING ETHICS  
3088 FILTERS AND PASSIVE COMPONENTS  
3145 MICROWAVE AND MILLIMETER WAVE SOLID STATE DEVICES  
3146 MICROWAVE SYSTEMS  
3223 SUBMILLIMETER-WAVE TECHNIQUES  
4004 ARTIFICIAL INTELLIGENCE  
4008 BIOLOGICAL NEURAL NETWORKS  
4023 DATA MINING  
4032 EMBEDDED SYSTEMS  
4206 HF-VHF-UHF TECHNOLOGY

NANO042 4005 ATOMIC MANIPULATION  
4052 MEMS/SENSOR/ACTUATOR/TRANSDUCER ELECTRONICS  
4055 MOLECULAR ELECTRONICS  
4059 NANOBIO SENSORS  
4060 NANOBIOLOGICAL TECHNOLOGY  
4061 NANOCOMPOSITES  
4062 NANOCRYSTAL MATERIALS  
4063 NANOELECTRICO MECHANICAL SYSTEMS(NEMS)  
4064 NANOELECTRONICS

4065 NANOMAGNETICS  
4066 NANOMATERIALS  
4067 NANOPHOTONICS  
4068 NANOROBOTICS  
4069 NANOTECHNOLOGY  
4070 NANOTUBES  
4088 QUANTUM COMPUTING  
4089 QUANTUM DEVICES  
4094 SINGLE ELECTRON DEVICE  
4095 SPIN ELECTRONICS/SPINTRONICS

NPS005 2015 ELECTRON DEVICES  
3004 ANALOG,DIGITAL AND MIXED MODE SIGNAL PROCESSING  
3010 ASICs AND PORTABLE ELECTRONICS  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3042 COMPUTERS IN MEDICINE  
3046 CONTROL SYSTEMS  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3058 DIGITAL SIGNAL PROCESSING  
3070 ELECTROMAGNETIC THEORY  
3074 ELECTROSTATIC DISCHARGE/LIGHTING  
3078 ENGINEERING ETHICS  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
3090 FUSION TECHNOLOGY  
3104 IMAGE PROCESSING  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3155 NUCLEAR AND PLASMA SCIENCES  
3156 NUCLEAR INSTRUMENTS AND DETECTORS  
3157 NUCLEAR MEDICAL AND IMAGING SCIENCES  
3158 NUCLEAR SCIENCE  
3167 PARTICLE ACCELERATOR SCIENCE AND TECHNOLOGY  
3172 PERMANENT MAGNETS  
3176 PLASMA SCIENCE AND APPLICATIONS  
3177 PLASMA SCIENCES  
2035 POWER ELECTRONICS  
3181 POWER ELECTRONICS DEVICES,CIRCUITS AND SYSTEMS  
2031 POWER ENGINEERING  
3184 POWER SYSTEMS INSTRUMENTATION AND MEASUREMENT  
3193 RADIATION EFFECTS  
3194 REACTOR INSTRUMENTATION AND CONTROLS  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3196 REAL TIME SYSTEMS  
3203 SEMICONDUCTOR DISCRETE DEVICES  
3209 SENSORS,INSTRUMENTATION AND DATA ACQUISITION  
2001 SIGNAL PROCESSING  
3224 SUPERCONDUCTING MAGNETS AND MATERIALS  
3250 VLSI  
3251 VLSI CIRCUITS,SYSTEMS AND APPLICATIONS  
3252 WIRELESS COMMUNICATIONS  
4035 ENVIRONMENTAL MEASUREMENTS AND MONITORING  
4086 PULSED POWER

OE022 2022 OCEANIC ENGINEERING  
3135 MARINE COMMUNICATIONS, NAVIGATION AND POSITIONING  
3148 MODELING, SIMULATION AND DATABASES  
3178 POLLUTION  
3200 ROBOTICS AND AUTOMATION  
3208 SENSOR DESIGN,INTEGRATION, AND FUSION  
3209 SENSORS,INSTRUMENTATION AND DATA ACQUISITION  
3225 SURFACE AND BULK ACOUSTIC WAVE DEVICES  
3244 UNDERWATER ACOUSTICS  
3245 VEHICLES AND SYSTEMS

PC026 2026 PROFESSIONAL COMMUNICATION

3024 COMMUNICATIONS AND POLICIES  
3035 COMPUTER COMMUNICATIONS  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3039 COMPUTER GRAPHICS  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3063 EDUCATIONAL METHODS  
3064 EDUCATIONAL TECHNOLOGY  
3093 GENERAL WRITING AND EDITING TECHNIQUES  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
2012 INFORMATION THEORY  
3113 INSTRUCTIONAL MATERIALS  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3125 LEARNING THEORY  
3129 MANAGEMENT  
3187 PROFESSIONAL DEVELOP. AND MOTIVATION  
3233 TECHNICAL PRESENTATIONS  
3234 TECHNICAL PUBLICATION

PE031 2031 POWER ENGINEERING  
3001 A.V. AND RF MEASUREMENTS AND TEST EQUIPMENT  
3005 ANALYSIS & CONTROL OF POWER ELECTRONICS SYSTEMS  
2003 ANTENNAS AND PROPAGATION  
3007 APPLICATIONS  
3009 ARTIFICIAL NEURAL NETWORKS  
3020 CABLE SYSTEMS  
3022 COMMUNICATION AND DATA NETWORKS  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3024 COMMUNICATIONS AND POLICIES  
3025 COMMUNICATIONS SIGNAL PROCESSING  
3026 COMMUNICATIONS SOFTWARE ARCHITECTURE AND IMPLEMENTATION  
3027 COMMUNICATIONS SWITCHING AND ROUTING  
3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN  
3032 COMPUTER AIDED DESIGN-ANALYSIS,SYNTHESIS,VERIFICATION,PHYSICAL  
3035 COMPUTER COMMUNICATIONS  
3036 COMPUTER COMMUNICATIONS, SYSTEMS AND PROTOCOLS  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3039 COMPUTER GRAPHICS  
3044 CONTROL AND POWER CONVERSION  
3045 CONTROL OF POWER SYSTEMS  
3048 CORONA  
3052 DATA TRANSMISSIONS AND TERMINALS  
3053 DC-TO-DC CONVERTERS & DC POWER SUPPLY SYSTEMS  
3054 DESIGN AUTOMATION  
3056 DIELECTRIC MATERIALS  
2032 DIELECTRICS AND ELECTRICAL INSULATION  
3058 DIGITAL SIGNAL PROCESSING  
3060 DISTRIBUTED PROCESSING  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3066 ELECTRIC MACHINERY  
3067 ELECTRICAL SAFETY,INDUSTRY AND GENERAL  
2027 ELECTROMAGNETIC COMPATIBILITY  
3069 ELECTROMAGNETIC INTERFERENCE CONTROL  
3070 ELECTROMAGNETIC THEORY  
3076 ENERGY  
3077 ENERGY DEVELOPMENT AND POWER GENERATION  
3078 ENGINEERING ETHICS  
2014 ENGINEERING MANAGEMENT  
3081 ENVIRONMENTAL QUALITY  
3082 EQUIP/SYS ANALYSIS  
3083 ERROR CONTROL CODING  
3086 FAULT TOLERANT COMPUTING  
3087 FERROELECTRICS  
3088 FILTERS AND PASSIVE COMPONENTS

3089 FREQUENCY CONTROL  
3090 FUSION TECHNOLOGY  
3091 FUZZY SYSTEMS  
3093 GENERAL WRITING AND EDITING TECHNIQUES  
3097 HISTORY OF ELECTRICAL ENGINEERING AND COMPUTING  
3098 HISTORY OF ELECTROTECHNOLOGY  
3105 INDUSTRIAL AND COMMERCIAL POWER SYSTEMS  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
2013 INDUSTRIAL ELECTRONICS  
2034 INDUSTRY APPLICATIONS  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
3113 INSTRUCTIONAL MATERIALS  
2009 INSTRUMENTATION AND MEASUREMENT  
3116 INTEGRATED ELECTRONICS  
3117 INTEGRATED OPTICS AND OPTOELECTRONICS  
3118 INTELLIGENT CONTROL  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3122 INTERNET COMPUTING  
2033 MAGNETICS  
3128 MAINTAINABILITY  
3129 MANAGEMENT  
3130 MANAGEMENT DEVELOPMENT AND TRAINING  
3131 MANAGEMENT POLICIES,METHODS,PROCEDURES  
3132 MAN-MACHINE SYSTEMS  
3136 MATERIALS AND PROCESSES  
3139 MEASURING TECHNOLOGY  
3141 METHODS OF MEASUREMENT  
3144 MICROPROCESSORS AND MICROCOMPUTERS  
3148 MODELING, SIMULATION AND DATABASES  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3153 NON-DESTRUCTIVE TESTING AND EVALUATION  
3155 NUCLEAR AND PLASMA SCIENCES  
3156 NUCLEAR INSTRUMENTS AND DETECTORS  
3158 NUCLEAR SCIENCE  
3159 NUMERICAL METHODS  
3160 OBJECT ORIENTED COMPUTING  
3162 OPERATING SYSTEMS  
3165 OPTOELECTRONIC DEVICES  
3166 OPTOELECTRONICS AND IMAGING  
3169 PATTERN RECOGNITION  
3170 PATTERN RECOGNITION AND LEARNING  
3178 POLLUTION  
3179 PORTABLE COMMUNICATIONS  
2035 POWER ELECTRONICS  
3181 POWER ELECTRONICS DEVICES,CIRCUITS AND SYSTEMS  
3183 POWER QUALITY  
3184 POWER SYSTEMS INSTRUMENTATION AND MEASUREMENT  
3185 POWER SYSTEMS RELAYING  
2026 PROFESSIONAL COMMUNICATION  
3187 PROFESSIONAL DEVELOP. AND MOTIVATION  
3188 PROGRAM,PROJECT MANAGEMENT  
3189 PROPAGATION  
3190 QUALITY CONTROL TECHNIQUES  
3193 RADIATION EFFECTS  
3194 REACTOR INSTRUMENTATION AND CONTROLS  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3196 REAL TIME SYSTEMS  
3197 RECTIFIERS & AC POWER SUPPLY SYSTEMS  
2007 RELIABILITY  
3200 ROBOTICS AND AUTOMATION  
3201 SATELLITE AND SPACE COMMUNICATIONS  
3202 SECURITY AND PRIVACY  
3208 SENSOR DESIGN,INTEGRATION, AND FUSION

3209 SENSORS,INSTRUMENTATION AND DATA ACQUISITION  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
2030 SOCIAL IMPLICATIONS OF TECHNOLOGY  
3213 SOCIOECONOMICS  
3215 SOFTWARE  
3216 SOFTWARE ENGINEERING  
3217 SOLID EARTH  
3224 SUPERCONDUCTING MAGNETS AND MATERIALS  
3226 SWITCHGEAR  
3227 SYSTEM DESIGN  
3228 SYSTEM ENGINEERING  
3229 SYSTEMS ANALYSIS AND DECISION ANALYSIS  
3230 SYSTEMS MANAGEMENT  
3231 SYSTEMS SCIENCE  
3233 TECHNICAL PRESENTATIONS  
3234 TECHNICAL PUBLICATION  
3235 TECHNOLOGY FORECASTING AND ASSESSMENT  
3236 TEST TECHNIQUES  
3237 TEST TECHNOLOGY  
3238 TRANSFORMERS  
3239 TRANSMISSION AND DISTRIBUTION  
3240 TRANSMISSION,ACCESS AND OPTICAL SYSTEMS  
3241 TRANSMITTERS AND ANTENNAS  
3242 TRANSPORTATION  
3246 VEHICULAR COMMUNICATIONS  
3249 VIDEO SIGNAL TRANSMISSION  
3252 WIRELESS COMMUNICATIONS

PEL035 2035 POWER ELECTRONICS  
3005 ANALYSIS & CONTROL OF POWER ELECTRONICS SYSTEMS  
3053 DC-TO-DC CONVERTERS & DC POWER SUPPLY SYSTEMS  
3150 MOTOR DRIVERS & MOTION CONTROL  
3183 POWER QUALITY  
3197 RECTIFIERS & AC POWER SUPPLY SYSTEMS

PSE043 2043 PRODUCT SAFETY ENGINEERING

RA024 3033 COMPUTER AND ROBOT VISION  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3133 MANUFACTURING AUTOMATION  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3149 MOTION AND PATH PLANNING  
3200 ROBOTICS AND AUTOMATION  
3208 SENSOR DESIGN,INTEGRATION, AND FUSION  
4045 INTELLIGENT TRANSPORTATION SYSTEMS

RL007 2007 RELIABILITY  
3007 APPLICATIONS  
3086 FAULT TOLERANT COMPUTING  
3128 MAINTAINABILITY  
3132 MAN-MACHINE SYSTEMS  
3199 RELIABILITY PHYSICS  
3215 SOFTWARE  
4074 NETWORK RELIABILITY  
4087 QUALITY ASSURANCE  
4202 DEVICE RELIABILITY  
4222 SIX SIGMA/DESIGN OF EXPERIMENTS  
4223 SOFTWARE RELIABILITY  
4224 SOFTWARE MAINTAINABILITY  
4225 SYSTEM PROGNOSTICS (ON CONDITION MAINTENANCE) AND HEALTH MANAGEMENT (phm)  
4226 SYSTEM SAFETY  
4227 SYSTEM SECURITY  
4228 FAILURE ANALYSIS

4229 TESTABILITY/DIAGNOSTICS  
4202 DEVICE RELIABILITY  
4231 SPECIALTY ENGINEERING COMPUTER AIDED ENGINEERING (CAE) APPLICATIONS  
4232 RELIABILITY (Computer)

SEN039 2039 SENSORS  
3002 ADAPTIVE SYSTEMS  
3010 ASICs AND PORTABLE ELECTRONICS  
3011 ATE TEST AND MEASUREMENT SYSTEMS  
3016 BIOLOGICAL AND MEDICAL  
3017 BIOMEDICAL INSTRUMENTATION  
3018 BIOMEDICAL SIGNAL PROCESSING  
3022 COMMUNICATION AND DATA NETWORKS  
3025 COMMUNICATIONS SIGNAL PROCESSING  
3026 COMMUNICATIONS SOFTWARE ARCHITECTURE AND IMPLEMENTATION  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN  
3031 COMPUTER AIDED CONTROL SYSTEMS DESIGN  
3033 COMPUTER AND ROBOT VISION  
3042 COMPUTERS IN MEDICINE  
2008 CONSUMER ELECTRONICS  
3045 CONTROL OF POWER SYSTEMS  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3058 DIGITAL SIGNAL PROCESSING  
3060 DISTRIBUTED PROCESSING  
3075 EMBEDDED CONTROLLERS  
3102 HYBRID MICROELECTRONICS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
3104 IMAGE PROCESSING  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
3107 INDUSTRIAL AUTOMATION AND CONTROL  
2009 INSTRUMENTATION AND MEASUREMENT  
3115 INTEGRATED AVIONICS  
3116 INTEGRATED ELECTRONICS  
3117 INTEGRATED OPTICS AND OPTOELECTRONICS  
3118 INTELLIGENT CONTROL  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3122 INTERNET COMPUTING  
3126 MAGNETIC RECORDING  
2033 MAGNETICS  
3139 MEASURING TECHNOLOGY  
3140 MEMORIES-SEMICONDUCTOR,MAGNETIC,OPTICAL  
3141 METHODS OF MEASUREMENT  
3142 MICRO PROCESSOR APPLICATION AND CONTROL  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3144 MICROPROCESSORS AND MICROCOMPUTERS  
3145 MICROWAVE AND MILLIMETER WAVE SOLID STATE DEVICES  
3148 MODELING, SIMULATION AND DATABASES  
3150 MOTOR DRIVERS & MOTION CONTROL  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3156 NUCLEAR INSTRUMENTS AND DETECTORS  
3157 NUCLEAR MEDICAL AND IMAGING SCIENCES  
3163 OPTICAL COMMUNICATIONS AND NETWORKING  
3164 OPTICAL FIBER AND PLANAR WAVEGUIDE TECHNOLOGY  
3165 OPTOELECTRONIC DEVICES  
3166 OPTOELECTRONICS AND IMAGING  
3172 PERMANENT MAGNETS  
3174 PHYSICAL ACOUSTICS  
3175 PHYSIOLOGICAL SYSTEMS MODELING  
3178 POLLUTION  
3179 PORTABLE COMMUNICATIONS  
3184 POWER SYSTEMS INSTRUMENTATION AND MEASUREMENT  
3189 PROPAGATION  
3190 QUALITY CONTROL TECHNIQUES  
3192 RADAR

3194 REACTOR INSTRUMENTATION AND CONTROLS  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3200 ROBOTICS AND AUTOMATION  
3203 SEMICONDUCTOR DISCRETE DEVICES  
3207 SENSOR AND DATA FUSION AND INDUSTRIAL VISION  
3208 SENSOR DESIGN, INTEGRATION, AND FUSION  
3209 SENSORS, INSTRUMENTATION AND DATA ACQUISITION  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
3218 SOLID STATE CIRCUIT AND SYSTEMS  
3225 SURFACE AND BULK ACOUSTIC WAVE DEVICES  
3241 TRANSMITTERS AND ANTENNAS  
2020 ULTRASONICS FERROELECTRICS AND FREQ. CONTROL  
3244 UNDERWATER ACOUSTICS  
3250 VLSI  
3251 VLSI CIRCUITS, SYSTEMS AND APPLICATIONS  
3252 WIRELESS COMMUNICATIONS

SIT030 2030 SOCIAL IMPLICATIONS OF TECHNOLOGY  
3002 ADAPTIVE SYSTEMS  
3016 BIOLOGICAL AND MEDICAL  
3024 COMMUNICATIONS AND POLICIES  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3041 COMPUTER NETWORKS  
3042 COMPUTERS IN MEDICINE  
3061 EARTH RESOURCES  
3062 EDUCATIONAL AND PROFESSIONAL DEVELOPMENT  
3063 EDUCATIONAL METHODS  
3076 ENERGY  
3078 ENGINEERING ETHICS  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
2014 ENGINEERING MANAGEMENT  
3081 ENVIRONMENTAL QUALITY  
3092 GAMES  
3093 GENERAL WRITING AND EDITING TECHNIQUES  
3096 GOVERNMENT AND TECHNOLOGY  
3097 HISTORY OF ELECTRICAL ENGINEERING AND COMPUTING  
3098 HISTORY OF ELECTROTECHNOLOGY  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
3113 INSTRUCTIONAL MATERIALS  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3129 MANAGEMENT  
3178 POLLUTION  
3187 PROFESSIONAL DEVELOP. AND MOTIVATION  
3211 SIMULATION  
3213 SOCIOECONOMICS  
3229 SYSTEMS ANALYSIS AND DECISION ANALYSIS  
3235 TECHNOLOGY FORECASTING AND ASSESSMENT

SMC028 2028 SYSTEMS, MAN, AND CYBERNETICS  
3002 ADAPTIVE SYSTEMS  
3009 ARTIFICIAL NEURAL NETWORKS  
3016 BIOLOGICAL AND MEDICAL  
3021 CIRCUITS AND SYSTEMS THEORY, DESIGN AND IMPLEMENTATION  
3023 COMMUNICATION SYSTEMS INTEGRATION AND MODELING  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN  
3031 COMPUTER AIDED CONTROL SYSTEMS DESIGN  
3032 COMPUTER AIDED DESIGN-ANALYSIS, SYNTHESIS, VERIFICATION, PHYSICAL  
3033 COMPUTER AND ROBOT VISION  
3037 COMPUTER CONTROL SOFTWARE, HARDWARE, AND INTERFACES  
3041 COMPUTER NETWORKS  
3042 COMPUTERS IN MEDICINE

3046 CONTROL SYSTEMS  
3047 CONTROL THEORY  
3051 DATA ENGINEERING  
3054 DESIGN AUTOMATION  
3055 DETECTION, ESTIMATION AND IDENTIFICATION  
3058 DIGITAL SIGNAL PROCESSING  
3075 EMBEDDED CONTROLLERS  
2018 ENGINEERING IN MEDICINE AND BIOLOGY  
2014 ENGINEERING MANAGEMENT  
3085 FACTORY AUTOMATION  
3086 FAULT TOLERANT COMPUTING  
3090 FUSION TECHNOLOGY  
3091 FUZZY SYSTEMS  
3092 GAMES  
3094 GENETIC ALGORITHMS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
3104 IMAGE PROCESSING  
3107 INDUSTRIAL AUTOMATION AND CONTROL  
3109 INDUSTRIAL PROCESS CONTROL  
2034 INDUSTRY APPLICATIONS  
3111 INFORMATION TECHNOLOGY/SYSTEMS  
3118 INTELLIGENT CONTROL  
3120 INTERDISCIPLINARY AND NEW ACTIVITIES  
3121 INTERNET ARCHITECTURE, TECHNOLOGY APPLICATIONS  
3123 KINEMATICS, DYNAMICS, AND CONTROL  
3125 LEARNING THEORY  
3132 MAN-MACHINE SYSTEMS  
3133 MANUFACTURING AUTOMATION  
3134 MANUFACTURING TECHNOLOGY  
3143 MICRO/NANO ELECTRO-MECHANICAL SYSTEMS AND ROBOTS  
3148 MODELING, SIMULATION AND DATABASES  
3149 MOTION AND PATH PLANNING  
3150 MOTOR DRIVERS & MOTION CONTROL  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3160 OBJECT ORIENTED COMPUTING  
3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE  
3169 PATTERN RECOGNITION  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3196 REAL TIME SYSTEMS  
3200 ROBOTICS AND AUTOMATION  
3202 SECURITY AND PRIVACY  
2001 SIGNAL PROCESSING  
3211 SIMULATION  
2030 SOCIAL IMPLICATIONS OF TECHNOLOGY  
3213 SOCIOECONOMICS  
3222 SPEECH PROCESSING  
3227 SYSTEM DESIGN  
3228 SYSTEM ENGINEERING  
3229 SYSTEMS ANALYSIS AND DECISION ANALYSIS  
3230 SYSTEMS MANAGEMENT  
3231 SYSTEMS SCIENCE  
3242 TRANSPORTATION  
4045 INTELLIGENT TRANSPORTATION SYSTEMS  
4221 COMPUTATIONAL INTELLIGENCE  
4233 CYBERNETICS  
4234 COMPUTATIONAL LIFE SCIENCE  
4235 EDUCATION TECHNOLOGY AND TRAINING  
4236 INFORMATION ASSURANCE & INTELLIGENT MULTIMEDIA-MOBILE  
4237 GRANULAR COMPUTING  
4238 INTELLIGENT INTERNET SYSTEMS  
4239 KNOWLEDGE ACQUISITION IN INTELLIGENT SYSTEMS  
4240 MACHINE LEARNING  
4241 MEDIA COMPUTING  
4242 MEDICAL INFORMATICS

4243 SELF COMPUTING  
4244 HUMAN-MACHINE SYSTEMS  
4245 COGNITIVE COMPUTING  
4246 COMPUTER SUPPORTED COOPERATIVE WORK IN DESIGN  
4247 HUMAN CENTERED TRANSPORTATION SYSTEMS  
4248 HUMAN-COMPUTER INTERACTION  
4249 INFORMATION SYSTEMS FOR DESIGN AND MARKETING  
4250 SYSTEMS SAFETY AND SECURITY  
4251 SYSTEM SCIENCE AND ENGINEERING  
4252 CONFLICT RESOLUTION  
4253 ENTERPRISE INFORMATION SYSTEMS  
4254 DISCRETE EVENT SYSTEMS  
4255 DISTRIBUTED INTELLIGENT SYSTEMS  
4256 GREY SYSTEMS  
4257 HOMELAND SECURITY  
4258 INDUSTRIAL APPLICATIONS  
4259 INFRASTRUCTURE SYSTEM AND SERVICES  
4260 INTELLIGENT GREEN PRODUCTION SYSTEMS  
4261 MEDICAL MECHATRONICS  
4262 ROBOTICS AND INTELLIGENT SENSING  
4263 SELF-ORGANIZATION AND CYBERNETICS FOR INFORMATICS  
4264 SERVICE SYSTEMS AND ORGANIZATION  
4265 SYSTEM OF SYSTEMS

SP001 2001 SIGNAL PROCESSING  
2050 DATA ACQUISITION, TRANSMISSION AND PROCESS  
3002 ADAPTIVE SYSTEMS  
3004 ANALOG,DIGITAL AND MIXED MODE SIGNAL PROCESSING  
3009 ARTIFICIAL NEURAL NETWORKS  
3013 AUDIO AND ELECTROACOUSTICS  
3018 BIOMEDICAL SIGNAL PROCESSING  
3025 COMMUNICATIONS SIGNAL PROCESSING  
3028 COMMUNICATIONS THEORY, MODULATIONS AND CODING  
3058 DIGITAL SIGNAL PROCESSING  
3088 FILTERS AND PASSIVE COMPONENTS  
3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING  
3104 IMAGE PROCESSING  
3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL  
3151 NEURAL NETWORK APPLICATION AND IMPLEMENTATION  
3157 NUCLEAR MEDICAL AND IMAGING SCIENCES  
3169 PATTERN RECOGNITION  
3192 RADAR  
3195 REAL TIME CONTROL COMPUTING AND SIGNAL PROCESSING  
3209 SENSORS,INSTRUMENTATION AND DATA ACQUISITION  
3220 SOURCE CODING, DATA COMPRESSION AND QUANTIZATION  
3222 SPEECH PROCESSING  
3244 UNDERWATER ACOUSTICS  
3248 VIDEO SIGNAL PROCESSING THEORY/TECHNOLOGY  
3252 WIRELESS COMMUNICATIONS

SSC037 2037 SOLID-STATE CIRCUITS  
3030 COMPUTER AIDED NETWORKS AND SYSTEMS DESIGN  
3140 MEMORIES-SEMICONDUCTOR,MAGNETIC,OPTICAL  
3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS  
3166 OPTOELECTRONICS AND IMAGING  
3219 SOLID-STATE CIRCUIT DESIGN TECHNIQUES  
3251 VLSI CIRCUITS,SYSTEMS AND APPLICATIONS  
4052 MEMS/SENSOR/ACTUATOR/TRANSDUCER ELECTRONICS  
4201 CIRCUIT SYSTEM TEST  
4207 INTEGRATED CIRCUITS-DIGITAL  
4208 INTEGRATED CIRCUITS-ANALOG-AND MIXED SIGNAL  
4209 INTEGRATED CIRCUITS-COMMUNICATION AND RF  
4210 MEDICAL ELECTRONICS  
4215 SEMI-CUSTOM AND ASCI DESIGN

4216 SOLID STATE MICROWAVE ELECTRONICS

- UFFC020 2020 ULTRASONICS FERROELECTRICS AND FREQ. CONTROL
- 3001 A.V. AND RF MEASUREMENTS AND TEST EQUIPMENT
- 2010 AEROSPACE AND ELECTRONIC SYSTEMS
- 3015 AUTOMOTIVE ELECTRONICS
- 3016 BIOLOGICAL AND MEDICAL
- 3017 BIOMEDICAL INSTRUMENTATION
- 3070 ELECTROMAGNETIC THEORY
- 3078 ENGINEERING ETHICS
- 3086 FAULT TOLERANT COMPUTING
- 3087 FERROELECTRICS
- 3088 FILTERS AND PASSIVE COMPONENTS
- 3089 FREQUENCY CONTROL
- 3102 HYBRID MICROELECTRONICS
- 3103 IMAGE AND MULTIDIMENSIONAL SIGNAL PROCESSING
- 3106 INDUSTRIAL APPLICATIONS OF SIGNAL PROCESSING AND CONTROL
- 2013 INDUSTRIAL ELECTRONICS
- 3126 MAGNETIC RECORDING
- 3135 MARINE COMMUNICATIONS,NAVIGATION AND POSITIONING
- 3142 MICRO PROCESSOR APPLICATION AND CONTROL
- 3149 MOTION AND PATH PLANNING
- 3152 NEW SOLID-STATE DEVICE AND CIRCUIT APPLICATIONS
- 3153 NON-DESTRUCTIVE TESTING AND EVALUATION
- 3164 OPTICAL FIBER AND PLANAR WAVEGUIDE TECHNOLOGY
- 3168 PATTERN ANALYSIS AND MACHINE INTELLIGENCE
- 3169 PATTERN RECOGNITION
- 3174 PHYSICAL ACOUSTICS
- 3188 PROGRAM,PROJECT MANAGEMENT
- 3189 PROPAGATION
- 3207 SENSOR AND DATA FUSION AND INDUSTRIAL VISION
- 3208 SENSOR DESIGN,INTEGRATION, AND FUSION
- 3209 SENSORS,INSTRUMENTATION AND DATA ACQUISITION
- 3213 SOCIOECONOMICS
- 3223 SUBMILIMETER-WAVE TECHNIQUES
- 3224 SUPERCONDUCTING MAGNETS AND MATERIALS
- 3225 SURFACE AND BULK ACOUSTIC WAVE DEVICES
- 3235 TECHNOLOGY FORECASTING AND ASSESSMENT
- 3242 TRANSPORTATION
- 3246 VEHICULAR COMMUNICATIONS
  
- VT006 2006 VEHICULAR TECHNOLOGY
- 3014 AUTOMOTIVE ELECTRICAL TECHNOLOGY
- 3015 AUTOMOTIVE ELECTRONICS
- 3065 ELECTRIC CARS
- 3179 PORTABLE COMMUNICATIONS
- 3246 VEHICULAR COMMUNICATIONS
- 4045 INTELLIGENT TRANSPORTATION SYSTEMS
- 4048 LAND TRANSPORTATION