

using vector algebra, determined the loads (forces) on elements of a structure (e.g., a bridge) and how those loads are transmitted to other elements of the structure, demonstrated facility in numerical problem solving, and demonstrated the ability to gather and analyze data in selected areas of the topics covered. *Prerequisite: Physics 107 or 201. Offered alternate fall terms.*

**324 Digital Electronics (4)**

An introduction to digital logic devices, microcontrollers (programming and operation), analog-to-digital and digital-to-analog converters, and basic input/output methods. Emphasis is given to controlling a process using these devices. Completing the course allows the student to identify and develop digital solutions to selected real world data acquisition and control problems.

*Prerequisite: Physics 107, 108. (Cross-referenced with Information Science and Technology 324.)*

**435 Mathematical Methods for Physics (4)**

A course designed to integrate mathematics into a coherent foundation for problem solving for upper-level physics and engineering courses. Topics include Laplace and Fourier transformations, Fourier series, vector operators, ordinary and partial differential equations, and orthogonal functions. Emphasis is given to the solution (analytical and numerical) of problems from both physics and engineering. Completion of the course allows the student to define important aspects of each mathematical topic, to describe the relevance of each topic to physics and engineering problems, and to work both formal and physics/engineering problems involving each topic.

*Prerequisite: Physics 107, 108; Mathematics 235, 236, 237, 238.*

**496 Senior Seminar (1)**

The senior seminar presents an opportunity to integrate knowledge from all previous coursework by working on a research project in collaboration with a faculty member. The chosen project is designed to promote understanding of basic research methods by their application. Students are responsible for the design of all aspects of the project including computer modeling, data analysis, and a formal write-up of their results. Communication is extremely important so students present their work locally and are encouraged to present papers at local and national conferences whenever possible. *Prerequisite: Permission of the instructor. Offered fall term.*

## **Political Science (PSI)**

**Professor McPartland**

Political science studies the use of authority and influence within legal, political, human and governmental contexts. It is designed to 1) prepare students to become effective citizens who contribute to and participate in democratic processes, 2) provide the knowledge and develop the intellectual skills which allow students to successfully enter and complete law school and graduate school, and 3) provide the knowledge and develop the talents of stu-

dents for future leadership roles. Political science graduates generally pursue careers in law, government, politics, management, teaching and leadership positions.

**Requirements for the Political Science Major:**

Complete 1 or 2.

1. Students not seeking certification for public school teaching of political science must complete the following:
  - a. A total of 30 credits in political science including Political Science 101, 496
  - b. A maximum of three political science internship credits may be counted toward the major in political science
2. Students seeking certification for public school teaching in political science must complete the following:
  - a. A total of 30 credits in political science including Political Science 101, 496
  - b. A maximum of three political science internship credits may be counted toward the major in political science
  - c. One additional teaching major
  - d. Cognates: a total of six or more credits chosen from one or more of the areas of history, economics, sociology, and psychology
  - e. Social Science 322, 323, 324, 325
  - f. All requirements listed under the catalog section Secondary Education

**Requirements for the Political Science Minor:**

Complete 18 credits in political science, including Political Science 101 and two courses chosen from Political Science 214, 316, 337. Political science internship credit may not be counted toward the minor.

**101 American Politics (3)**

An analysis of American political institutions and behavior.

**213 Political Parties and Behavior (3)**

A study of voting behavior, candidate selection, political party organization, and campaigns. *Offered alternate years.*

**214 International Politics (3)**

The dynamics of the international state system with emphasis on the problem of war and the maintenance of peace. Includes the role of international law, nationalism, balance of power, dominance of power, and international organization. *Offered alternate years.*

**234 Legislative and Executive Behavior (3)**

Policy-making processes and behavior at the national and state levels. Includes the presidency, Congress, and bureaucratic politics. Offered alternate years.

**243 Contemporary Political Issues (3)**

A course in policy analysis. Includes selected policy issues facing government. *Offered alternate years.*

**290, 390, 490 Directed Study (1-3) (1-3) (1-3)**

An opportunity for supervised, independent study of a particular topic based on the interest of the student and the availability and approval of the faculty.

**308 Public Finance (3)**

An examination of the effects of fiscal policy on resources, incomes, prices, and employment. The course emphasizes federal, state, and local taxes and current public policy problems. *Prerequisite: Economics 203 or 204. (Cross-referenced with Economics 308.) Offered alternate spring terms.*

**316 Comparative Politics (3)**

Comparative political institutions and behavior in foreign nations. A comparative analysis of different political systems. *Offered alternate years.*

**323 State and Local Politics (3)**

An analysis of political processes and behavior in state, metropolitan, and local governments. *Offered alternate years.*

**326 Modern Asian History (3)**

Emphasis will be on China and Japan with some coverage of the Korean peninsula. Themes include modernization, imperialism, relations with the West, Sino-Japanese relations, and economic development. As a result of this course, students will gain an understanding of Western and non-Western heritages in terms of their origins, development, values, and distinctive qualities. Students will also gain an understanding of the nature of social, political, economic, and psychological forces and how they affect us. *(Cross-referenced with History 326.) Offered alternate spring terms.*

**328 Constitutional Law (3)**

A study of the constitution through an analysis of Supreme Court decisions. Includes distribution of powers, the commerce clause, intergovernmental relations, state powers, and substantive due process. *Offered alternate years.*

**332 Current Legal Issues (3)**

An analysis of recent Supreme Court decisions on the subject of constitutional rights and liberties. Includes litigation under the selected amendments to the constitution. *Offered alternate years.*

**337 Political Thought (3)**

Analysis of the most prominent political writers from Plato to the present. Compares the ideas of those men with recent studies of political behavior. *Offered alternate years.*

**338 Modern Russia (3)**

Russia from 1855 and the Great Reforms of Tsar Alexander II through the Bolshevik Revolution, the Stalin period, the decline and fall of the USSR, and the troubled emergence of the "New Russia" and the other post-Soviet suc-

cessor states. As a result of this course, students will gain an understanding of Western and non-Western heritages in terms of their origins, development, values, and distinctive qualities. Students will also gain an understanding of the nature of social, political, economic, and psychological forces and how they affect us. (*Cross-referenced with History 338.*)

**353 Twentieth-Century World History (3)**

An examination of modern political and social developments in six societies (Russia, China, India, Brazil, South Africa, and Japan). Change in these societies will be studied against the background of twentieth-century global change in Europe, Africa, the United States, Latin America, and Asia. As a result of this course, students will gain an understanding of Western and non-Western heritages in terms of their origins, development, values, and distinctive qualities. Students will also gain an understanding of the nature of social, political, economic, and psychological forces and how they affect us. (*Cross-referenced with History 353.*) *Offered alternate fall terms.*

**421 Governmental Internship (0-3)**

An internship in a governmental agency designed to provide experience with public management skills. *Prerequisite: Cooperative Education 205 or permission. (Pass/Fail)*

**496 Seminar (3)**

A major research project in political science culminating in the presentation of a research paper. *Prerequisite: Senior major in political science.*

## **Psychology (PSY)**

**Professor Freer**

**Professor R. Peters**

**Assistant Professor Pauwels**

The psychology major consists of a wide range of theoretical and applied courses that are beneficial for students who are interested in obtaining a broad understanding of human behavior. Through two emphases, general psychology and mental health, the major prepares students for careers in a variety of human service settings. Both the general and mental health emphases consist of courses which give students a strong background in the discipline. In addition, the mental health emphasis includes a course which introduces students to the field of counseling. The mental health emphasis also requires students to participate in internships, which involve working in applied settings in the human service field.

### **Requirements for the Psychology Major:**

Complete 1 or 2.

1. General Psychology major:
  - a. Thirty-four credits in psychology, including Psychology 117, 245, 255 (or 256), 314 (or 342), 336, 352, 365, 416, 445 and 496
  - b. Cognate Social Science 217