The course will introduce students to principles used in 3D Cad and BIM modeling. Technologies to draw three dimensionally on the computer will be considered as a discipline within itself, and students will be instructed to use the machine for design exploration. Various software packages will be utilized during the semester.


Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the student's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

INDU 490. Independent Studies Industrial Design. 1-3 credits, repeatable.

Offerings vary. Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offerings must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

IS 203. Portfolio Development Workshop. 1 credit.

A short orientation course designed to prepare students for transition into higher learning education programs. Specific content includes identifying college-level expectations, documenting experiential learning, determining a credit request and organizing a portfolio for assessment. Prerequisite: Individualized studies majors and individualized studies special students only.

IS 250. Service Learning. 1-6 credits, repeatable to 6 credits.

Leadership, citizenship and professional competencies may be acquired through community service experiences. Documented service learning component will be assessed by the Community Service Learning and credit awarded as appropriate. Prerequisite: IS 200.

IS 270. Selected Topics. 1-6 credits, repeatable.

In-depth study of selected topics with current importance and interest to lower division students that are not otherwise covered in the regular course offerings of academic units. Course content will vary. Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.

IS 275. Dollars and Sense. 3 credits.

This practical course will review the affect a personal philosophy on money, and management of personal finances, has on all aspects of life when it comes to securing the American Dream. Students will learn real life skills in the areas of eliminating debt, creating a budget, understanding investments and insurance, saving money, planning for retirement, shopping for a house and other topics dealing with financial issues faced in daily life.

IS 290. Special Studies. 1-6 credits, repeatable.

Designed to give students an opportunity to do lower-division independent study in selected interdisciplinary areas under the supervision of a faculty member in the appropriate academic unit. Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.

IS 300. Sponsored Learning. 1-6 credits, repeatable.

A structured learning activity related to a student's area of study and sponsored by an employer, volunteer agency or other appropriate organization. Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.

IS 480. Cooperative Studies. 1-6 credits, repeatable.

Two or more upper-level students may elect to study cooperatively in a selected area of current importance and interest under the supervision of a faculty member in the appropriate academic unit. Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.

IS 490. Special Studies. 1-6 credits, repeatable.

Designed to give students an opportunity to do upper-division independent study in selected interdisciplinary areas under the supervision of a faculty member in the appropriate academic unit.

IS 498. Bachelor of Individualized Study Project. 3-6 credits.

An in-depth study of an interdisciplinary topic directly related to the student’s areas of concentration. A final oral report is required. Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.

IS 499. Honors. 6 credits.

Multiple-semester course. Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study Department head.

INDU 392. Topics in Industrial Design. 3 credits.

Study of selected topics in art, art history, graphic design, interior design, or industrial design at the intermediate level. May be repeated when course content changes. See e-campus for current topics.

INDU 490. Independent Studies Industrial Design. 1-3 credits, repeatable.

Offerings vary. Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

IS 201. ISAT Freshman Seminar. 1 credit.

This seminar course will introduce the ISAT curriculum and career options to freshmen students and will describe how various elements of the curriculum and available ISAT elective sequences in each technology sector relate to the goals and objectives of the program. Prerequisite: Freshman standing at JMU.

IS 112. Environmental Issues in Science and Technology (2, 2).

4 credits.

This course integrates the study of biology, chemistry and statistics within the context of environmental issues that include ozone depletion, acid rain, global warming, waste management and biodiversity.

IS 113. Biotechnology Issues in Science and Technology (2, 2).

4 credits.

This course introduces current topics in the life science technologies through lecture and laboratory exercises. Topics include advances in genetic engineering, the hierarchy of life and the rise of infectious diseases.

IS 131. Technology, Science and Society (1, 2). 3 credits.

This course introduces the social aspects of technology and science. It covers social science methods and related philosophical and ethical analyses. Students learn how the practice of science relates to the human-built world and why critical evaluations of science and technology policies are important.

IS 141. Analytical Methods. 4 credits.

This course introduces the student to science and the scientific method; introductory statistics and graphical data analysis, with emphasis on using the computer for managing data and for empirical modeling; functions for modeling real-world systems; critical thinking skills for analyzing arguments involving data; project management.

IS 150. Algebra Essentials. 1 credit.

This course provides review and practice in algebra concepts that are needed to successfully complete ISAT 151. Various mathematical models, including trigonometric, are also reviewed. The course is designed for students who possess a basic understanding of algebra but are not proficient in its application. Prerequisite: Permission of the instructor. Corequisite: ISAT 151 and permission of the instructor.

Integrated Science and Technology

Department of Integrated Science and Technology

First Year Student – Sophomore Sequence

GISAT 100. Environmental and Energy Sustainability. 3 credits.

This course explores scientific and technical issues important to environmental and energy sustainability. Students study fundamental chemistry and physics and then apply this knowledge to better understand air quality, water quality, and conventional and alternative energy processes.

ISAT 101. ISAT Freshman Seminar. 1 credit.

This seminar course will introduce the ISAT curriculum and career options to freshmen students and will describe how various elements of the curriculum and available ISAT elective sequences in each technology sector relate to the goals and objectives of the program. Prerequisite: Freshman standing at JMU.

GISAT 112. Environmental Issues in Science and Technology (2, 2).

4 credits.

This course integrates the study of biology, chemistry and statistics within the context of environmental issues that include ozone depletion, acid rain, global warming, waste management and biodiversity.

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ISAT 150. Algebra Essentials. 1 credit.

This course provides review and practice in algebra concepts that are needed to successfully complete GISAT 151. Various mathematical models, including trigonometric, are also reviewed. The course is designed for students who possess a basic understanding of algebra but are not proficient in its application. Prerequisite: Permission of the instructor. Corequisite: GISAT 151 and permission of the instructor.