

HUMAN-CENTERED DESIGN AND DEVELOPMENT, B.S. (CAPITAL)

Begin Campus: Any Penn State Campus

End Campus: Harrisburg

Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2024-25 academic year. To access previous years' suggested academic plans, please visit the archive (<https://bulletins.psu.edu/undergraduate/archive/>) to view the appropriate Undergraduate Bulletin edition.

Human-Centered Design and Development, B.S. at Harrisburg Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits
HCDD 113S ^{*#}	3 IST 210 ^{*#}	3
IST 140 ^{*#}	3 IST 242 ^{*#}	3
MATH 110 or 140 (GQ) ^{††}	4 CAS 100A or 100S [‡]	3
Application Focus Selection 1	3 ENGL 15, 15S, 30T, or ESL 15 (GWS) [‡]	3
PSYCH 100 or SOC 3 (GS) ^{††}	3 STAT 200 (GQ) ^{*†#††}	4
16		16

Second Year

Fall	Credits Spring	Credits
IST 220 ^{*#}	3 IST 311 [*]	3
HCDD 264 [*]	3 Application Focus Selection 2	3
IST 230 [*]	3 Elective	3
General Education Course (GS/GH/GA/GN/GHW)	3 IST 256 [*]	3
IST 261 [*]	3 General Education Course (GS/GH/GA/GN/GHW)	3
15		15

Third Year

Fall	Credits Spring	Credits Summer	Credits
HCDD 340 [*]	3 HCDD 364W [*]	3 IST 495 ^{*1}	1
Application Focus Selection 3	3 IST 361 (or Elective) [*]	3	
General Education Course (GS/GH/GA/GN/GHW)	3 IST 412 [*]	3	
General Education Course (GS/GH/GA/GN/GHW)	3 General Education Course (GS/GH/GA/GN/GHW)	3	
ENGL 202C or 202D (GWS) ^{††}	3 General Education Course (GS/GH/GA/GN/GHW)	3	
15		15	1

Fourth Year

Fall	Credits Spring	Credits
IST 411 [*]	3 HCDD 440 [*]	3
IST 402 [*]	3 General Education Course (GS/GH/GA/GN/GHW)	3
Application Focus Selection 4	3 General Education Course (GS/GH/GA/GN/GHW)	3
General Education Course (GS/GH/GA/GN/GHW)	3 Elective	3
12		15

Total Credits 120

- * Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

¹ IST 495 is typically completed the summer after junior year, but may be completed at any time during the student's academic career.

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number

used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

Advising Notes:

Students are encouraged to meet the general education requirements of inter-domain and linked courses in their general education credits.

Students are encouraged to complete the US and IL university requirements as part of their General Education course selections or, in some cases, as part of their Application Focus course selections.

Students pick one of the application focuses areas below or create a custom four-course application focus. Students must pick three credits at the 400 level. All twelve credits must be in the same application focus area.

Students in the Human-Centered Design and Development (HCDCA_BS) major are expected to complete 24 credits of upper-level course work in the major at Penn State Harrisburg. This is in compliance with Faculty Senate Policy 83-80.5.

Psychology

Code	Title	Credits
PSYCH 244	Introduction to the Psychology of Human Factors Engineering ¹	3
PSYCH 221	Introduction to Social Psychology ¹	3
PSYCH 253	Introduction to Psychology of Perception	3
PSYCH 256	Introduction to Cognitive Psychology ¹	3
PSYCH 301W	Basic Research Methods in Psychology ¹	4
PSYCH 370	Psychology of the Differently-Abled	3
PSYCH 420	Advanced Social Psychology ¹	3
PSYCH 421	Self and Social Judgment	3
PSYCH 423	Social Psychology of Interpersonal/Intergroup Relationships	3
PSYCH 458	Visual Cognition	3

¹ Course available at Harrisburg campus

- Note that this assumes PSYCH 100 will be chosen from Additional Courses, as it is a prerequisite for many of these classes.

Sociology

Code	Title	Credits
SOC 207	Research Methods in Sociology ¹	3
SOC 403	Advanced Social Psychology ¹	3
SOC 404	Social Influence and Small Groups ¹	3
SOC 405	Sociological Theory ¹	3
SOC 425	Social Conflict ¹	3
SOC 429	Social Stratification ¹	3

SOC 435/ HDFS 434	Perspectives on Aging ¹	3
SOC 471	Qualitative Research Methods in Sociology	3

¹ Course available at Harrisburg campus

- Note that this assumes SOC 3 will be chosen from Additional Courses, as it is a prerequisite for many of these classes.

Informatics

Code	Title	Credits
IST 222H	Community Informatics	3
IST 234N	Digital Cultures	3
IST 237	Digital Entrepreneurship	3
IST 301	Information and Organizations ¹	3
IST 337	Technologies for Digital Entrepreneurs	3
IST 402	Emerging Issues and Technologies ¹	3
IST 437	Digital Design & Innovation	3
IST 431	The Information Environment	3
IST 441		3
IST 446	An Introduction to Building Computer/Video Games	3

¹ Course available at Harrisburg campus

Security and Risk

Code	Title	Credits
CYBER 100	Computer Systems Literacy ¹	3
SRA 111	Introduction to Security and Risk Analysis ¹	3
SRA 211	Threat of Terrorism and Crime ¹	3
SRA 221	Overview of Information Security ¹	3
SRA 231	Decision Theory and Analysis ¹	3
CYBER 262	Cyber-Defense Studio ¹	3
SRA 268	Visual Analytics	3
SRA 311	Risk Analysis in a Security Context ¹	3
CYBER 366	Malware Analytics ¹	3
SRA 421	The Intelligence Environment	3
SRA 468	Spatial Analysis of Risks	3
SRA 472	Integration of Privacy and Security ¹	3

¹ Course available at Harrisburg campus

Geographic Information Systems

Code	Title	Credits
GEOG 6N	Maps and the Geospatial Revolution	3
GEOG 260	Geographic Information in a Changing World: Introduction to GIScience	3
GEOG 361	Cartography—Maps and Map Construction	3
GEOG 362	Image Analysis	3
GEOG 363	Geographic Information Systems	3
GEOG 364	Spatial Analysis	3
CAS 101N	Introduction to Human Communication ¹	3
GEOG 461W	Dynamic Cartographic Representation	3
GEOG 463	Geospatial Information Management	3

GEOG 464	Advanced Spatial Analysis	3
GEOG 485	GIS Programming and Software Development	3

¹ Course available at Harrisburg campus

Digital Arts and Communication

Code	Title	Credits
CAS 101N	Introduction to Human Communication ¹	3
GD 100	Introduction to Graphic Design ¹	3
AA 121	Design Thinking and Creativity ¹	3
COMM 100N	The Mass Media and Society ¹	3
AA 122	Introduction to Graphic Storytelling	3
CAS 175		3
CAS 215	Argumentation	3
CAS 271N	Intercultural Communication	3
CAS 383N	Culture and Technology	3
CAS 471	Intercultural Communication Theory and Research	3
COMM 190/ GAME 140	Gaming and Interactive Media ¹	3
COMM 241	Graphic Design for Communications ¹	3
COMM 310	Digital Media Metrics	3
COMM 318		
COMM 325	Effects of digital games	3
COMM 418	Media Effects: Theory and Research	3
COMM 441	Advanced Graphic Design for Communications ¹	3
COMM 450A	Digital Campaigns	3

¹ Course available at Harrisburg campus

Data Sciences

Code	Title	Credits
DS 120	Scripting for Data Sciences	1
DS 200	Introduction to Data Sciences ¹	4
DS 220	Data Management for Data Sciences	3
DS 310	Machine Learning for Data Analytics	3
STAT 184	Introduction to R ¹	2
DS 300	Privacy and Security for Data Sciences	3
DS 330	Visual Analytics for Data Sciences	3
STAT 380	Data Science Through Statistical Reasoning and Computation ¹	3
DS 402	Emerging Trends in the Data Sciences	3
DS 410	Programming Models for Big Data	3
MIS 301	Business Analytics ¹	3
MIS 431	Business Data Management ¹	3
MIS 441	Business Intelligence for Decision Making ¹	3
MIS 445	Business Intelligence	4

¹ Course available at Harrisburg campus

Healthcare

Code	Title	Credits
HPA 101	Introduction to Health Services Organization ¹	3
HPA 210	Health Care Payment ¹	3
HPA 211	Financial Decisions in Health Care Organizations ¹	3

HPA 332	Health Systems Management ¹	3
HPA 470	Health Care Information Management ¹	3
HDFS 210Z		3
HDFS 249N	Adult Development and Aging ¹	3
HDFS 445	Development Throughout Adulthood ¹	3
BBH 101	Introduction to Biobehavioral Health ¹	3
BBH 302	Diversity and Health ¹	3
BBH 305	Introduction to Global Health Issues ¹	3
BBH 315	Gender and Biobehavioral Health ¹	3
BBH 316	Foundations and Principles of Health Promotion ¹	3
BBH 402	African Health & Development	3
BBH 432	Biobehavioral Aspects of Stress ¹	3
BBH 440	Principles of Epidemiology ¹	3

¹ Course available at Harrisburg campus

Business Administration (Harrisburg Students Only)

The Business Administration focus is for students who desire the opportunity to develop and apply skills relevant to businesses and other organizations. Included in this focus area are courses in the core business disciplines of accounting, finance, management, and marketing. Select at least twelve (12) credits from below, with at least three (3) credits at the 400 level.

Code	Title	Credits
ACCTG 211	Financial and Managerial Accounting for Decision Making	4
ECON 102	Introductory Microeconomic Analysis and Policy	3
or ECON 104	Introductory Macroeconomic Analysis and Policy	
MIS 250	Introduction to Problem Solving with Spreadsheet Analysis and Information Systems Management	3
BA 243	Social, Legal, and Ethical Environment of Business	4
BA 364Y	International Business and Society	3

The following courses may require prerequisites:

Code	Title	Credits
MIS 301	Business Analytics	3
MIS 390	Foundations of Information Systems	3
MGMT 301	Basic Management Concepts	3
FIN 301	Corporation Finance	3
MKTG 301	Principles of Marketing	3
SCM 301	Supply Chain Management	3
MGMT 418	Project Planning and Resource Management	3
MGMT 420	Negotiation and Conflict Management	3
MGMT 433	Leadership and Team Building	3
MIS 420	Business Process Management	3

Custom Application Focus

There is an option for a student to create a custom 4-course application focus sequence. It must be a coherent sequence of courses that provides context for the student in terms of content relevant to the HCDD program. It must contain three credits of 400-level coursework, so it's important to consider course prerequisites when creating your custom application focus area. It must be selected in consultation with a teaching HCDD faculty member and an academic adviser.