

Emergency Management Program Update

Hazard Vulnerability Risk Assessment (HVRA)



Objective: The HVRA identifies the most likely sources of harm to the UMBC community. Survey results from University SMEs and from other community members, in combination with vulnerability assessments, determine primary hazards.

1. Assessment Results:

- **Hazard Value (HZ):** "How likely is it a hazard will occur on campus?" Utility or Infrastructure Outage has the highest HZ value.
- **Human impact (HI):** "What percentage of our population would be impacted if a hazard occurred?" IT or Communications Outage has the highest HI value.
- **Economic Impact (EI):** "What percentage of our economic value would be impacted if a hazard occurred?" Severe Storm has the highest EI value.
- **Consequence (C) Scores:** Add HI and EI values for the highest overall impact on campus. IT or Communications Outage has the highest C score.
- **Probability (P) Scores:** Multiply HZ values and Vulnerability (V) ratings to determine the most likely hazard to campus. Crime Against Property has the highest P score.

2. Risk (R) Scores: Each hazard receives its R score by adding its C and P scores. This indicated the highest risk by combining likelihood and impact.

- **Primary Overall Hazard:** Among all natural, accidental, and intentional hazards, Utility or Infrastructure Outage has the highest overall R score.
- **Primary Natural Hazard:** Severe Storm (tornadoes, high winds, severe thunderstorms, hurricanes, and tropical storms).
- **Primary Accidental Hazard:** Utility or Infrastructure Outage (water, power, heating or cooling systems, elevators, or fire alarm and sprinkler system outages).
- **Primary Intentional Hazard:** Crime Against Property (any form of theft or intentional damage caused to property owned by an individual or owned by the University).

3. Top 10 Risk Rankings for All Hazards:

Rank	R Score	Hazard Type
1	7.75	PRIMARY OVERALL AND PRIMARY ACCIDENTAL HAZARD: Utility or Infrastructure Outage (water, power, heating or cooling systems, elevators, or fire alarm and sprinkler system outages).
2	7.64	PRIMARY INTENTIONAL HAZARD: Crime Against Property.
3	7.63	Crime Against Persons. Any form of assault on an individual or group.
4	7.24	IT or Communications Outage.
5	7.22	PRIMARY NATURAL HAZARD: Severe Storm.
6	7.10	Winter Storm.
7	6.42	Medical Emergency.
8	6.29	Infectious Disease Outbreak (other than COVID-19).
9	6.27	Active Shooter/Workplace Violence.
10	6.01	Other External Events (initiated by an agency or organization outside of UMBC control).

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