ACS Assessment Tool

for Chemistry in Two-Year College Programs

Section V. Infrastructure

Scope of assessment tool section

The following is Section V of the *ACS Assessment Tool for Chemistry in Two-Year College Programs*. The form will guide you through a self-assessment of the following topics:

* Offices
* Types of classrooms available
* Laboratories and chemical storage
* Chemical information resources

Other sections of the tool address other aspects of chemistry-based education. For a more in-depth evaluation of chemistry or chemistry-based technology education at your institution, use the complete *ACS Assessment Tool for Chemistry in Two-Year College Programs*.

***Note:*** for ease of use, the assessment tool is password-protected. If you wish to edit the form, you may unlock it using the password, “assess.”

The assessment tool is a resource developed by ACS to facilitate the assessment of chemistry education with respect to the *ACS Guidelines for Chemistry in Two-Year College Programs*. The assessment tool is designed to allow chemistry faculty and administrations to assess the achievements and areas for improvement of the chemistry-based programs and courses at their institution. Developed by two-year college chemistry faculty, it is managed by the ACS Undergraduate Programs Office with input from the Undergraduate Programs Advisory Board and the Assessment Review Panel.

V. Infrastructure

A. Offices

(See Section 4.1 of the ACS Guidelines for Chemistry in Two-Year College Programs, p. 10-11.)

**Describe the types of offices used by chemistry faculty.**

|  |  |  |
| --- | --- | --- |
| ***Attributes*** |  | ***Number of offices with these attributes*** |
| Number of occupants per office: Click here to enter text.  Accommodates confidential discussions  Access to library resources  Adequate access to students | Reasonably close to teaching facilities  Reasonably close to laboratories | Click here to enter text. |
| Number of occupants per office: Click here to enter text.  Accommodates confidential discussions  Access to library resources  Adequate access to students | Reasonably close to teaching facilities  Reasonably close to laboratories | Click here to enter text. |

Additional office information is attached.

**Briefly describe offices used by chemistry faculty.**

Click here to enter text.

B. Types of classrooms available

(See Section 4.1 of the ACS Guidelines for Chemistry in Two-Year College Programs, p. 10-11.)

**Describe the types of classrooms used for chemistry lecture (non-laboratory) activities.**

|  |  |  |
| --- | --- | --- |
| ***Attributes*** | ***Available resources*** | ***Number of classrooms with these attributes*** |
| ADA compliant  Reasonable proximity to laboratories  Supports variety of pedagogies  Meets modern standards for a learning environment  **Seating capacity:** Click here to enter text. | Internet access  Demonstration facilities  Projection capabilities | Click here to enter text. |
| ADA compliant  Reasonable proximity to laboratories  Supports variety of pedagogies  Meets modern standards for a learning environment  **Seating capacity:** Click here to enter text. | Internet access  Demonstration facilities  Projection capabilities | Click here to enter text. |
| ADA compliant  Reasonable proximity to laboratories  Supports variety of pedagogies  Meets modern standards for a learning environment  **Seating capacity:** Click here to enter text. | Internet access  Demonstration facilities  Projection capabilities | Click here to enter text. |

Additional classroom information is attached.

**Briefly describe classrooms used for chemistry or chemistry-based technology education.**

Click here to enter text.

C. Laboratories and chemical storage

(See Sections 4.1-4.3 of the ACS Guidelines for Chemistry in Two-Year College Programs, p. 10-12.)

1. **Indicate which of the following equipment students have adequate access to.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Volumetric glassware |  | Melting point apparatus |
|  | Thermometers |  | pH meter |
|  | Hot plates |  | Top-loading balance |
|  | Bunsen burners |  | Analytical balance |
|  | Filtration equipment |  | Software with scientific word processing, illustration, and modeling capabilities |
|  | Microscale or full scale organic kits |  | Computing facilities for analyzing and reporting data |
|  | Software for data acquisition and analysis |  | Other (specify): Click here to enter text. |

1. **Indicate which of the following instrumentation is available to students, either onsite or at another convenient location.**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Spectroscopy*** | | ***Voltammetry*** | |
|  | UV-Visible spectrometer |  | Coulometer |
|  | Fourier transform infrared spectrometer (FT-IR) |  | Voltmeter/potentiometer |
|  | Nuclear magnetic resonance spectrometer (NMR) |  | Cyclic voltammetry equipment |
|  | Fourier transform nuclear magnetic resonance spectrometer (FT-NMR) |  | Gel electrophoresis equipment |
|  | Atomic absorption spectrometer |  | Other (specify): Click here to enter text. |
|  | Other (specify): Click here to enter text. |  | Other (specify): Click here to enter text. |
| ***Separations*** | | ***Combustion*** | |
|  | Gas chromatograph |  | Bomb calorimeter |
|  | Mass spectrometer |  | CHN analyzer |
|  | Centrifuge |  | Total organic carbon analyzer |
|  | High-performance liquid chromatograph (HPLC) |  | Other (specify): Click here to enter text. |
|  | Other (specify): Click here to enter text. |  | Other (specify): Click here to enter text. |
| ***Chemistry-based technology*** | | ***Other*** | |
|  | Fixed-bed process reactor |  | Flow-injection analysis system |
|  | Fluid-bed process reactor |  | Autosampler equipment |
|  | Distillation tower |  | Digestion bomb |
|  | Thermocouple |  | Rotary evaporator |
|  | Viscometer |  | Polymerase chain reaction analyzer |
|  | Nephelometer |  | Desiccator |
|  | Pilot plant |  | Other (specify): Click here to enter text. |
|  | Other (specify): Click here to enter text. |  | Other (specify): Click here to enter text. |

1. **Describe the types of rooms used for laboratory activities.**

| ***Number of laboratories with the following attributes:*** Click here to enter text. | | | |
| --- | --- | --- | --- |
| **Net available square footage:** | Click here to enter text. | **Number of fume hoods:** | Click here to enter text. |
| **Student capacity:** | Click here to enter text. | **ADA compliant?:** | Yes  No |
| **Laboratory usage (select all that apply):**  Teaching  Long-term projects  Research  Other (specify): Click here to enter text. | | **Do the equipment, instrumentation, and space in this lab adequately support its usage?**  Yes  No (elaborate in comments) | |
| ***Comments:*** Click here to enter text. | | | |

| ***Number of laboratories with the following attributes:*** Click here to enter text. | | | |
| --- | --- | --- | --- |
| **Net available square footage:** | Click here to enter text. | **Number of fume hoods:** | Click here to enter text. |
| **Student capacity:** | Click here to enter text. | **ADA compliant?:** | Yes  No |
| **Laboratory usage (select all that apply):**  Teaching  Long-term projects  Research  Other (specify): Click here to enter text. | | **Do the equipment, instrumentation, and space in this lab adequately support its usage?**  Yes  No (elaborate in comments) | |
| ***Comments:*** Click here to enter text. | | | |

Additional laboratory information is attached.

1. **Is there sufficient instrumentation and equipment for all chemistry and/or chemistry-based technology students to meet their academic needs?**

Yes

No.

If you answered no, describe the shortfall and any efforts to address it.

Click here to enter text.

1. **Is there sufficient personnel to maintain all the chemistry and/or chemistry-based technology instrumentation and equipment?**

Yes

No.

If you answered no, describe the shortfall and any efforts to address it.

Click here to enter text.

1. **What equipment, instrumentation, and/or personnel is not necessary to maintain the status quo but would prove beneficial if made available. Briefly describe how the resource(s) would strengthen or expand chemistry-based education at your institution.**

Click here to enter text.

D Chemical information resources (Sect. 4.3, 7.6)

(See Sections 4.3 and 7.6 of the ACS Guidelines for Chemistry in Two-Year College Programs, p. 12,28-29.)

**Indicate which chemical literature publications are readily available to faculty and students.**

|  | ***Faculty*** | | | ***Students*** | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***Print*** | ***Online (full subscription)*** | ***Partner institution*** | ***Print*** | ***Online (full subscription)*** | ***Partner institution*** |
| *Chemical Abstracts™* |  |  |  |  |  |  |
| Other journal databases (specify): *Click here to enter text.* |  |  |  |  |  |  |
| *Chemical & Engineering News* |  |  |  |  |  |  |
| *Science* |  |  |  |  |  |  |
| *Nature* |  |  |  |  |  |  |
| *Journal of the American Chemical Society* |  |  |  |  |  |  |
| *Accounts of Chemical Research* |  |  |  |  |  |  |
| *Analytical Chemistry* |  |  |  |  |  |  |
| *Biochemistry* |  |  |  |  |  |  |
| *Chemical Reviews* |  |  |  |  |  |  |
| *Environmental Science & Technology* |  |  |  |  |  |  |
| *Journal of Chemical Education* |  |  |  |  |  |  |
| *Journal of Medicinal Chemistry* |  |  |  |  |  |  |
| *Journal of Organic Chemistry* |  |  |  |  |  |  |
| *Journal of Physical Chemistry*  *A*  *B*   *C*  *Letters* |  |  |  |  |  |  |
| Other peer-reviewed journals (specify): *Click here to enter text.* |  |  |  |  |  |  |
| Textbook publisher materials (specify): *Click here to enter text.* |  |  |  |  |  |  |
| Other chemistry-related publications (specify): *Click here to enter text.* |  |  |  |  |  |  |

**Do the chemical information resources listed above support the following?**

|  |  |  |
| --- | --- | --- |
|  |  | ***Briefly describe*** |
| Continuous improvement of the chemistry curriculum | Choose an item. | Click here to enter text. |
| Professional growth of chemistry faculty | Choose an item. | Click here to enter text. |
| Student education on the use of chemical literature | Choose an item. | Click here to enter text. |
| Original research or long-term projects | Choose an item. | Click here to enter text. |
| Internships, externships, or co-operative learning experiences | Choose an item. | Click here to enter text. |
| Collaboration with science librarians on research and student instruction | Choose an item. | Click here to enter text. |

Provide any additional comments on the infrastructure used for chemistry education.

Click here to enter text.