

## 2025 Akita University Faculty of Medicine Syllabus

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|-------------------|--------------------------|
| Category          | : 医療・社会・行動科学 IV          |
| Course Title      | : Medical Informatics    |
| Eligible Students | : grade 4 Related Course |
| Code              | : 71583009               |
| Schedule          | : week 1 ~ week 3        |
| Credits           | : 0.5                    |

### 1. Lead Instructor

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| Tetsuya | Otsubo | (Professor, 医療情報学講座 ( 附属病院第 1 病棟 B1F ) Department / Division of Medical Informatics (Wing No.1 of the University Hospital B1F), 6049) |
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### 2. Instructors

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| Tetsuya  | Otsubo   | (Professor, 医療情報学講座 ( 附属病院第 1 病棟 B1F ) Department / Division of Medical Informatics (Wing No.1 of the University Hospital B1F), 6049)                 |
| Masayuki | Katahira | (Associate Professor, 医療情報学講座 ( 基礎棟 1F ) Department of Medical Informatics (Research Building for Basic Medicine 1F), 6095, Office Hour: 17:00-18:00) |

### 3. Course Description Outline(Course Objectives)

#### 1. ねらい ( 大まかな全体目標 ) Outline

情報科学の基礎, 情報管理とプライバシー保護に関する必要な知識を学ぶとともに, 診療記録の作成・利活用, 医療記録の電子化についての理解を深め, 社会制度を踏まえた医師としての素養を高める。また, 関連するプロフェッショナルリズム, 倫理, 医療行動科学, 医療安全, 医療法制度, EBM について学ぶ。

This course introduces the basics of information science, information management and privacy protection, and deepens the understanding of creation and utilization of digitized medical records so as to enhance ones' skill as a doctor. It also covers professionalism, ethics, medical behavioral science, patient safety, medical law and the legal system, and Evidence-based Medicine (EBM) related to the field.

#### 2. 概要 ( 大まかな学修目標・項目 ) Course Objectives

##### 1) 情報科学の基本的事項とセキュリティに関する技術的事項を説明できる。(1-1)

Explain the basics of information science and technical matters related to information security. (1-1)

##### 2) 社会における情報インシデントを事例を通じて理解し, 自らが注意すべき事項を説明できる。(1-1 ~ 1-2, 3-5, 3-7)

Understand information incidents through case studies and explain what doctors should be mindful of. (1-1 ~ 1-2, 3-5, 3-7)

##### 3) 診療録について, 法的背景を含め医師が理解しておくべき事項を説明できる。(1-1 ~ 1-2, 3-5, 3-7)

Explain what doctors should understand about medical records, including legal aspects of medical record-keeping. (1-1 ~ 1-2, 3-5, 3-7)

##### 4) 医療現場における記録の重要性, および診療録改竄の違法性を説明できる。(1-1 ~ 1-2, 2-4, 2-6 ~ 2-7, 3-5, 3-7, 4-5, 4-7 ~ 4-8)

Explain the importance of records in clinical practice and the illegality of falsification of them. (1-1 ~ 1-2, 2-4, 2-6 ~ 2-7, 3-5, 3-7, 4-5, 4-7 ~ 4-8)

##### 5) 診療録の記載内容, 管理・保存, 診療情報開示を説明できる。(1-1 ~ 1-2, 2-5, 3-5, 3-7, 4-5)

Explain the essential contents of medical records, and the management, preservation, and disclosure of them. (1-1 ~ 1-2, 2-5, 3-5, 3-7, 4-5)

##### 6) 問題志向型医療記録 (POMR) を説明でき, 実際に作成できる。(1-1 ~ 1-2, 2-5, 3-3, 3-5, 4-5)

Explain and create problem-oriented medical records (POMRs). (1-1 ~ 1-2, 2-5, 3-3, 3-5, 4-5)

##### 7) SOAP 形式による経過記録を説明でき, 実際に記載できる。(1-1 ~ 1-2, 3-5, 4-5)

Explain and describe progress records in SOAP format. (1-1 ~ 1-2, 3-5, 4-5)

##### 8) 診療に関する諸記録 (処方箋, 入院診療計画書, 検査・画像・手術の記録, 退院時要約, 等) を説明できる。(1-1 ~ 1-2, 2-6 ~ 2-7, 3-5, 3-7, 4-5)

Explain various medical records (prescriptions, hospitalization plans, examinations, medical images, surgery records, discharge summaries, etc.) (1-1 ~ 1-2, 2-6 ~ 2-7, 3-5, 3-7, 4-5)

9) 必要に応じて医療文書を作成できる。(1-1 ~ 1-2, 4-5)

Create medical documents as needed. (1-1 ~ 1-2, 4-5)

10) 診療情報の電子化に関する社会背景や現状, 諸制度について説明できる。(1-1 ~ 1-2, 3-3, 3-5, 3-7, 4-4, 4-7 ~ 4-8, 5-3)

Explain social backgrounds, the current situation, and various systems related to the digitization of medical information. (1-1 ~ 1-2, 3-3, 3-5, 3-7, 4-4, 4-7 ~ 4-8, 5-3)

11) 電子化された診療情報の作成ができ, 法的要件も含めた管理を説明できる。(1-1 ~ 1-2, 3-7, 4-5, 4-8)

Create electronic medical records and explain about management, including the legal requirements of medical record management. (1-1 ~ 1-2, 3-7, 4-5, 4-8)

12) 情報システムを利用する際に留意すべき事項を理解し, 情報の授受を適切に行うことができる。(1-1 ~ 1-2, 2-5 ~ 2-7, 3-5, 3-7, 4-5, 4-7 ~ 4-8, 5-3)

Understand the points to keep in mind when using information systems and how to exchange information appropriately. (1-1 ~ 1-2, 2-5 ~ 2-7, 3-5, 3-7, 4-5, 4-7 ~ 4-8, 5-3)

13) 医療における個人情報保護の重要性や留意点を説明でき, プライバシー保護とセキュリティに十分配慮できる。(1-1 ~ 1-2, 2-4, 3-5, 3-7)

Explain the importance of protecting personal information in healthcare, key criteria in handling information, and giving adequate consideration to privacy protection and security. (1-1 ~ 1-2, 2-4, 3-5, 3-7)

14) 患者情報の守秘義務と患者等への情報提供の重要性を理解し, 適切な取扱いができる。(1-1 ~ 1-2, 2-4, 3-5, 3-7)

Understand confidentiality of personal information and the importance of information disclosure to patients and related parties, and handle it appropriately. (1-1 ~ 1-2, 2-4, 3-5, 3-7)

15) 電子化された診療情報の管理に必要な事項を説明できる。(1-1 ~ 1-2, 3-5, 3-7, 4-4 ~ 4-5, 4-8, 5-3)

Explain items necessary for managing electronic medical records. (1-1 ~ 1-2, 3-5, 3-7, 4-4 ~ 4-5, 4-8, 5-3)

16) 症例を適切に要約する習慣を身に付け, 状況に応じて提示できる。(1-1 ~ 1-2, 2-4, 2-6 ~ 2-7, 4-5, 4-7)

Summarize and present cases appropriately. (1-1 ~ 1-2, 2-4, 2-6 ~ 2-7, 4-5, 4-7)

17) 医療情報に関連する標準化の必要性や, 規格・規約を説明できる。(1-1 ~ 1-2, 3-3, 3-7, 4-8, 5-3, 5-5)

Explain the need for standardization in medical information and standards related to medical information. (1-1 ~ 1-2, 3-3, 3-7, 4-8, 5-3, 5-5)

18) 本領域に関連する, 医療倫理, 医療安全, 法的制度について説明できる。(1-1 ~ 1-2, 2-4 ~ 2-5, 3-3, 3-5, 3-7, 4-4, 4-8)

Explain professionalism, ethics, patient safety, medical law and legal systems related to the field. (1-1 ~ 1-2, 2-4 ~ 2-5, 3-3, 3-5, 3-7, 4-4, 4-8)

#### 4. Textbook/Reference Books

医療情報第7版 医療情報システム編 篠原出版新社

#### 5. Assessment

統一試験, 形成試験, レポートにより, 総合的に評価します。

Grading will be decided based on comprehensive examination, formative assessment, and reports.

#### 6. Out of Class Study/Message

本授業では, 講義資料の提示やレポート提出・形成評価に Webclass を利用します。WebClass にアップロードする資料を用いて, 授業時間外の準備学習および復習を行ってください。授業期間終了後も Webclass を一定期間開放して, インターネットを利用した復習もできるようにする予定です。

In this course, Webclass system will be used for providing lecture materials, submitting reports, and the formative assessment. Use the materials uploaded to Webclass for preparatory study and review outside class hours. After the completion of the course, materials will remain available for a certain period of time.

| Topics and Contents of class, Course Objectives |                |        |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                 |
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|                                                 | Class Date     | Period | Class Format | Topics and Contents of class, Course Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Instructors       | Class Room      |
| 1                                               | 4 / 8<br>(Tue) | 1-2    | Lecture      | <p>Theme: 診療記録と法的背景 Medical records and legal background<br/> 講義内容 Outline<br/> 医療機関で取り扱う診療録等の各種記録について、関連法規をはじめとする法的背景および医療者として注意すべき点について解説する。それを踏まえ、診療録に関する基礎知識、問題指向型医療記録、SOAP 形式による診療録の記載について詳説する。</p> <p>In this class, students will explain the legal background including related laws and regulations regarding various medical records, and points to be noted as a medical professional. Based on the above, explain in detail the basic knowledge about medical records, problem-oriented medical records (POMRs), and the description in SOAP format.</p> <p>具体的到達目標（詳細な学修目標）Course Objectives<br/> 1）診療録について、法的背景を含め医師が理解しておくべき事項を説明できる。(1-1～1-2, 3-5, 3-7)<br/> Explain what doctors should understand about medical records, including legal aspects of medical record-keeping. (1-1～1-2, 3-5, 3-7)</p> <p>2）医療現場における記録の重要性、および診療録改竄の違法性を説明できる。(1-1～1-2, 2-4, 2-6～2-7, 3-5, 3-7, 4-5, 4-7～4-8)<br/> Explain the importance of records in clinical practice and the illegality of falsification of them. (1-1～1-2, 2-4, 2-6～2-7, 3-5, 3-7, 4-5, 4-7～4-8)</p> <p>3）診療録の記載内容、管理・保存、診療情報開示を説明できる。(1-1～1-2, 2-5, 3-5, 3-7, 4-5)<br/> Explain the essential contents of medical records, and the management, preservation, and disclosure of them. (1-1～1-2, 2-5, 3-5, 3-7, 4-5)</p> <p>4）問題志向型医療記録(POMR)を説明でき、実際に作成できる。(1-1～1-2, 2-5, 3-3, 3-5, 4-5)<br/> Explain and create problem-oriented medical records (POMRs). (1-1～1-2, 2-5, 3-3, 3-5, 4-5)</p> <p>5）SOAP 形式による経過記録を説明でき、実際に記載できる。(1-1～1-2, 3-5, 4-5)<br/> Explain and describe progress records in SOAP format. (1-1～1-2, 3-5, 4-5)</p> <p>6）診療に関する諸記録（処方箋、入院診療計画書、検査・画像・手術の記録、退院時要約、等）を説明できる。(1-1～1-2, 2-6～2-7, 3-5, 3-7, 4-5)<br/> Explain various medical records (prescriptions, hospitalization plans, examinations, medical images, surgery records, discharge summaries etc.) (1-1～1-2, 2-6～2-7, 3-5, 3-7, 4-5)</p> <p>7）必要に応じて医療文書を作成できる。(1-1～1-2, 4-5)<br/> Create medical documents as needed. (1-1～1-2, 4-5)</p> | Tetsuya<br>Otsubo | 第二病棟 2<br>階多目的室 |

| Topics and Contents of class, Course Objectives |                 |        |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |              |
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|                                                 | Class Date      | Period | Class Format | Topics and Contents of class, Course Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Instructors       | Class Room   |
| 2                                               | 4 / 8<br>(Tue)  | 3-4    | Lecture      | <p>Theme: 診療記録の電子化 Electronic medical record<br/>講義内容 Outline<br/>診療情報の電子化に関する社会背景や現状・諸制度について解説し，電子カルテに代表される病院情報システムの診療場面における利活用について詳説する．<br/>In this class, explain the social background, current situation, and various systems related to the digitization of medical information, and explain in detail the utilization of hospital information systems in clinical practice.</p> <p>具体的到達目標（詳細な学修目標）Course Objectives<br/>1）診療情報の電子化に関する社会背景や現状，諸制度について説明できる．(1-1～1-2, 3-3, 3-5, 3-7, 4-4, 4-7～4-8, 5-3)<br/>Explain social backgrounds, the current situation, and various systems related to the digitization of medical information. (1-1～1-2, 3-3, 3-5, 3-7, 4-4, 4-7～4-8, 5-3)<br/>2）電子化された診療情報の作成ができ，法的要件も含めた管理を説明できる．(1-1～1-2, 3-7, 4-5, 4-8)<br/>Create electronic medical records and explain about management, including the legal requirements of medical record management. (1-1～1-2, 3-7, 4-5, 4-8)</p> | Tetsuya Otsubo    | 第二病棟 2 階多目的室 |
| 3                                               | 4 / 15<br>(Tue) | 1-2    | Lecture      | <p>Theme: 情報セキュリティ Information Security<br/>講義内容 Outline<br/>情報システムを利用する医師として知っておくべき情報科学の基本的事項，およびセキュリティについて総括的に解説し，医学生および医療者として注意すべき点について詳説する．<br/>In this class, students will acquire comprehensive understanding of the basics of information science and security that doctors who use information systems should know and consider as a medical professional.</p> <p>具体的到達目標（詳細な学修目標）Course Objectives<br/>1）情報科学の基本的事項とセキュリティに関する技術的事項を説明できる．(1-1)<br/>Explain the basics of information science and technical matters related to information security. (1-1)<br/>2）社会における情報インシデントを事例を通じて理解し，自らが注意すべき事項を説明できる．(1-1～1-2, 3-5, 3-7)<br/>Understand information incidents through case studies and explain what doctors should be mindful of. (1-1～1-2, 3-5, 3-7)</p>                                                                                                                                                  | Masayuki Katahira | 第二病棟 2 階多目的室 |

| Topics and Contents of class, Course Objectives |                 |        |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |              |
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| 4                                               | 4 / 15<br>(Tue) | 3-4    | Lecture      | <p>Theme: 情報システムの適切な利用，医療と個人情報保護 Appropriate use of information systems, health care and personal information protection</p> <p>講義内容 Outline</p> <p>情報システムの利用に際して留意すべき点について，社会の動向も踏まえて詳説する．また，医療における個人情報の保護と患者プライバシー保護の留意点について「個人情報保護法」および「医療・介護関係事業者における個人情報の適切な取扱いのためのガイダンス」（個人情報保護委員会・厚生労働省）に基づき詳説する．</p> <p>In this class, students will obtain a thorough knowledge of matters medical professionals should consider when using information systems, including social trends. Further, students will become well-versed in protection of personal information and patient privacy in medical treatment based on laws and official guidelines, as well as points to keep in mind in clinical practice.</p> <p>具体的到達目標（詳細な学修目標）Course Objectives</p> <p>1）情報システムを利用する際に留意すべき事項を理解し，情報の授受を適切に行うことができる．(1-1～1-2, 2-5～2-7, 3-5, 3-7, 4-5, 4-7～4-8, 5-3)</p> <p>Understand the points to keep in mind when using information systems, and how to exchange information appropriately. (1-1～1-2, 2-5～2-7, 3-5, 3-7, 4-5, 4-7～4-8, 5-3)</p> <p>2）医療における個人情報保護の重要性や留意点を説明でき，プライバシー保護とセキュリティに十分配慮できる．(1-1～1-2, 2-4, 3-5, 3-7)</p> <p>Explain the importance of protecting personal information in healthcare, key criteria in handling information, and giving adequate consideration to privacy protection and security. (1-1～1-2, 2-4, 3-5, 3-7)</p> <p>3）患者情報の守秘義務と患者等への情報提供の重要性を理解し，適切な取扱いができる．(1-1～1-2, 2-4, 3-5, 3-7)</p> <p>Understand confidentiality of personal information and the importance of information disclosure to patients and related parties, and handle it appropriately. (1-1～1-2, 2-4, 3-5, 3-7)</p> | Tetsuya Otsubo | 第二病棟 2 階多目的室 |

| Topics and Contents of class, Course Objectives |                 |        |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                 |
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| 5                                               | 4 / 22<br>(Tue) | 1-2    | Lecture             | <p>Theme: 電子化された診療情報の活用・管理と標準化 Utilization, management and standardization of electronic medical information</p> <p>講義内容 Outline</p> <p>病院情報システムによる診療記録の管理，医療機関における情報システムの導入や地域医療連携で重要となる「標準化」について，その概念および代表的な標準規格について講義する．</p> <p>This class will explain the importance of 'standardization' in management of medical records by hospital information systems, and will cover the introduction of information systems at medical institutions, regional medical cooperation and introduce typical standards.</p> <p>具体的到達目標（詳細な学修目標）Course Objectives</p> <p>1）電子化された診療情報の管理に必要な事項を説明できる．(1-1～1-2, 3-5, 3-7, 4-4～4-5, 4-8, 5-3)</p> <p>Explain items necessary for managing electronic medical records. (1-1～1-2, 3-5, 3-7, 4-4～4-5, 4-8, 5-3)</p> <p>2）症例を適切に要約する習慣を身に付け，状況に応じて提示できる．(1-1～1-2, 2-4, 2-6～2-7, 4-5, 4-7)</p> <p>Summarize and present cases appropriately. (1-1～1-2, 2-4, 2-6～2-7, 4-5, 4-7)</p> <p>3）医療情報に関連する標準化の必要性や，規格・規約を説明できる．(1-1～1-2, 3-3, 3-7, 4-8, 5-3, 5-5)</p> <p>Explain the need for standardization in medical information and standards related to medical information. (1-1～1-2, 3-3, 3-7, 4-8, 5-3, 5-5)</p> | Tetsuya<br>Otsubo | 第二病棟 2<br>階多目的室 |
| 6                                               | 4 / 22<br>(Tue) | 3-4    | Formative assesment | <p>Theme: 病院情報システム操作説明・全体討議・形成評価 Instructions for operating the hospital information system, general discussion, and formative assessment</p> <p>前半は，第二病棟 2 階多目的室において，臨床実習で使用する附属病院の病院情報管理システム（電子カルテ）の操作方法を概説する．続けて全体討議を行い，レポート課題について説明する．</p> <p>後半は形成試験を実施する．</p> <p>In the first half of the course, students will learn how to operate the hospital information system (electronic medical record) of our university hospital, which they will then use in clinical clerkship. A general discussion will be held and a report will be explained.</p> <p>In the second half of the course, a formal assessment will be conducted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Tetsuya<br>Otsubo | 第二病棟 2<br>階多目的室 |